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ARDS USER'S MANUAL: DOCUMENT ANALYSIS

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The Automated Requirements Development System (ARDS) is a set of software tools that supports the requirements development activities for ESD system acquisition programs. ARDS was developed at MITRE under ESD/MITRE Project 5720, Embedded Computer Systems Engineering and Applications. ARDS runs on the MITRE-Bedford UNIX facility and supports documents generated with the WORD-11 and DEC stand-alone word-processing systems. This user's manual is an instructional guide for the use of the Document Analysis capability.

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SECTION 1

INTRODUCTION

PURPOSE

The purpose of the Automated Requirements Development System (ARDS) User's Manual is to acquaint users with the ARDS capabilities and provide sufficient information for them to use ARDS independently.

This volume of the user's manual contains information about the ARDS Document Analysis capabilities. Other ARDS capabilities that support the management of comments on a specification have been developed and can be reviewed in volume 2 of the manual. Capabilities that support the initial generation of a requirements specification are being developed and will be made available in later versions of the system and the manual.

This manual provides a brief overview of the ARDS Document Analysis capabilities and describes how they can be used to support ESD program/project work in sections 1 and 2. Section 3 contains information on how to access Document Analysis and how to use the system. Sections 4 and 5 contain procedures for using batch and on-line Document Analysis, respectively. Section 6 contains a set of the hard copy products.

The ARDS developers are interested in your comments on both the ARDS system and the user's manual. We are also interested in your suggestions for improvement or extension of the capabilities. Please phone any of the authors or send UNIX[1] mail to "ards" (see section 3, REPORTING ERRORS AND SUGGESTIONS).

WHAT IS ARDS?

The Automated Requirements Development System is a set of software tools that support the requirements development activities for ESD system acquisition programs.

Much of the requirements related work performed in ESD system acquisition consists of generating, reviewing, revising, and

[1] UNIX is a trademark of Bell Laboratories.

analyzing written specifications and other program documents. ARDS provides information to help perform these tasks and capabilities for manipulating digitized documents. It helps improve productivity and produce quality for both engineers and secretaries.

Three major functions are supported by ARDS:

Document Analysis tools include programs to check for spelling and typographical errors; to check paragraph numbering; to generate a table of contents; to check internal paragraph references; and to check external document references. A word [illegible] and locate capability supports analysis of a document for [illegible]sistency of terminology.

S[illegible]ification Generation tools support the initial preparation [illegible] specification. They consist of a data base of text useful [illegible] preparation of specifications and automated aids for [illegible]ing the tailored text and for generating a draft document.

Specification Review tools support logging, merging, and sorting comments from various agencies to coordinate the review process, including the capability to produce an integrated set of formal comments.

ARDS runs on the MITRE-Bedford UNIX facility. It is accessed through various terminals by cable, phone line or ARPANET connections. Interfaces with the WORD-11 word-processing system and DEC stand-alone word processors allow documents to be moved between them and the MITRE-Bedford UNIX system so that ARDS tools can be used on documents generated and maintained in different systems.

SECTION 2

OVERVIEW

MODES OF OPERATION

The ARDS Document Analysis capabilities are available in two modes, on-line and batch. The products of the analysis are essentially the same in the two modes.

The on-line mode offers an easy-to-use display interface for the user to request an analysis and review the results of the analysis at a VT100 or VT103 terminal. It also automatically prints a complete set of products. It is intended for the local ESD/MITRE user who is not familiar with the UNIX system.

The batch mode offers a simple way of requesting an analysis of a document and of getting a hard copy or a file copy of the products. It is intended for use by people who want only hard copy products, who do not have access to a VT100 or VT103 terminal or who are located remote from the MITRE-Bedford UNIX computer facility.

CAPABILITIES

An overview of the ARDS Document Analysis capabilities is presented in the text that follows:

Word Check

Word Check aids in the detection and the correction of spelling and typographical errors. The Word Check capability of Document Analysis checks all words (spaced symbol groups) in a document. Words that are not recognized by the dictionary fall into two categories. Some words are listed as possible acronyms. The remainder of the words are listed as doubtful. If a doubtful word is actually correct, you can include the word in the dictionary.

Paragraph Check

For documents with numbered paragraphs, Document Analysis can help you ensure that they are numbered correctly. Document Analysis Paragraph Checking will detect any paragraph number that is not in a proper ascending numeric order throughout the document. A listing of these errors is generated for your review and correction.

Reference Check

Document Analysis permits the checking of two types of referencing:

Paragraph references within the document, where one paragraph may refer to another by number.

External references, where the text refers to other relevant documents.

For documents with numbered paragraphs, where one paragraph may reference another by number, Document Analysis can help you ensure that those references are correct. The Document Analysis paragraph reference generates three types of listings:

Wrong references, i.e., to paragraphs that do not exist,

Paragraph references from other paragraphs (this listing is useful when paragraph numbers in the document may be changing), and

Paragraph references to other paragraphs.

If your document lists references to other documents in a defined location (e.g., section 2.0 of a system specification), Document Analysis will check discrepancies in referencing. That is to say, the analysis will determine if there are references in the text which do not appear in the reference list, and vice versa.

Table of Contents

For documents with paragraph numbers, Document Analysis will generate a table of contents, listing paragraphs by number, title and page in the document.

CONCEPT OF DOCUMENT ANALYSIS USE

The Document Analysis capabilities of ARDS enable both authors and reviewers to check and improve the accuracy and consistency of specifications and other documents. A copy of a document prepared on any one of various local word-processing systems (DEC stand-alone word processors and WORD-11) is transferred to Document Analysis where a set of analyses is done. The results of the analysis, which identify errors and possible errors, are used to edit and correct the document in its home word-processing system.

The paragraphs that follow contain a description of how Document Analysis can be applied to the analysis of a document. For the purpose of this discussion, let us assume that the document is a requirements specification generated in WORD-11 and that the document is being analyzed in a batch mode.

When the specification has been entered into WORD-11 and is ready for analysis, the user transfers (copies) the document to the MITRE/UNIX facility. After the document has been transferred, the user logs into a UNIX account and prepares the document for Document Analysis. The user enters the ARDS system and requests that the document be analyzed. In about thirty minutes the user picks up the Document Analysis products from the computer center. The Document Analysis products consist of the following types of reports: Word Check, Paragraph Check, Reference Check, and Table of Contents. Now let us look at how each of these reports can support the analysis and revision of a document.

The Document Analysis word-checking capability aids in the detection and correction of spelling and typographical errors. This capability generates a list of words that are not recognized by the UNIX system dictionary as being correct (doubtful words). The user reviews the ARDS doubtful words location listing, along with a copy of the specification to determine if any of the doubtful words are actually good words. If good words are found, they are marked as such on the doubtful words listing for later inclusion in the dictionary. After reviewing the Word Check reports, the user is ready to update the document and the project dictionary. The document is updated by correcting the misspellings and typographical errors in WORD-11. The user then contacts the ARDS support personnel for a dictionary update so that the next time the document is analyzed by Document Analysis, those words will be recognized as good words.

The alphabetical list of all words in the document is used to detect terminology problems in the document. For example, a search for obsolete words in the list can be performed. If they are found, the location of each occurrence can be obtained as a special product.

When the spelling, typographical, and terminology errors have been resolved, the user is ready to verify the accuracy of the paragraph numbers. This is done by reviewing the paragraph check report. This report indicates which paragraphs are not in the proper ascending number sequence. In addition, the report indicates the page number and line number where the error was found. The user may also want to review the Document Analysis generated Table of Contents to aid in the detection of possible paragraph-numbering

errors. The Paragraph Check report, the Document Analysis generated Table of Contents and a copy of the specification can be used to determine what corrections should be made to the specification in WORD-11.

The Reference Check products aid in the detection of errors associated with paragraph and external references in a specification. Paragraph references are those references made by one paragraph to another paragraph. The Paragraph Reference check report can help the user ensure that there are no references to non-existing paragraphs. This product includes a list of references to paragraphs that do not exist, a list of paragraphs that are referred to by other paragraphs and a list of paragraphs that refer to other paragraphs. These listings are particularly helpful when the document is being revised and paragraphs are added and deleted. External references are other documents, such as military specifications and standards. They are listed in section 2 of the requirements specification. The products indicate which documents in section 2 have not been referenced elsewhere in the specification and should, therefore, be deleted from section 2. In addition, this product lists those documents that have been found in the text but not listed in section 2 and should, therefore, be added to section 2.

The Document Analysis Table of Contents is a product generated from the user's specification text. A review of this product can assist the user in getting a general overview of the document and in determining if paragraphs have been omitted. In addition, the Document Analysis generated Table of Contents can be used to ensure the accuracy of a manually generated Table of Contents. Further, the Document Analysis generated Table of Contents can be included in the specification the user is generating. After the Document Analysis generated Table of Contents has been reviewed, along with the specification, the user should make the appropriate corrections in WORD-11.

Once these corrections, as well as others that might be necessary, have been made in WORD-11 and a next version is ready, the document is analyzed by Document Analysis again to ensure that no new errors have been introduced.

SECTION 3

HOW TO USE DOCUMENT ANALYSIS

GETTING A COMPUTER ACCOUNT

The first step for a new Document Analysis user is to get a UNIX account by calling the User Support Center at 617-271-2222.

TERMINAL TYPES

The Document Analysis on-line interface is limited to use on the DEC VT100 and VT103 terminals.

The Document Analysis batch capability can be used at any terminal that can access the MITRE-Bedford UNIX facility.

TAILORING A DOCUMENT FOR DOCUMENT ANALYSIS

In order to apply Document Analysis to a document, the document must be tailored to adhere to the following characteristics:

Contain no table of contents, requirements verification matrix, list of figures, list of illustrations, etc., if they have numbers that look like paragraph numbers.

Have page numbers that are centered, Arabic numbers containing no special characters. The page numbering allows for figures and tables not included in the document.

Is a single-spaced document with double-spacing between paragraphs.

Document Analysis products, such as the table of contents, can be used as part of you document. If you wish to use the table of contents as part of your document, an analysis must be performed after final editing is completed. WORD-11 users should see appendix A, HOW TO GET THE FINAL WORD-11 DOCUMENT.

TRANSFERRING DOCUMENTS TO UNIX

Documents generated in other word-processing systems must be transferred into the UNIX system before the ARDS tools can be used on them. The procedures for transferring documents from WORD-11 and DEC stand-alone word processors are found in appendices B and D, respectively. Transfers from other word-processing systems can be arranged. If you need additional help in transferring your documents, contact the ARDS support personnel at 617-271-7864.

LOGGING ON TO THE SYSTEM

Turn the terminal on. On VT100 and VT103 terminals the "ON/OFF" switch is on the back left side. The cursor will appear when the power is on.

Enter a carriage return (indicated by <CR> in these instructions). If the system prompts you as follows with:

MITRE System #?

your response is:

1 <CR>

to select the MITRE-Bedford UNIX Facility.

If the system prompts you with:

Enter MITRENET Service Name

your response is:

unix <CR>

to select the MITRE-Bedford UNIX Facility. The system will respond with several information messages, but wait for the login message before entering anything.

When "login:" appears, type in your account name and enter "<CR>". The system will then ask for the password. Enter the password (the password does not show on the screen) and enter "<CR>". If the login or the password is incorrect, the system will repeat the login sequence until you give the correct information. When the login is complete, the system will respond with a message from the computer center. You can enter a command when the prompt (%) appears.

UNIX Timeout

If you do not start to login within 30 seconds, the connection will "timeout" issuing the message:

```
Timeout - Disconnect
@(#) gl
Disconnection Complete
```

If "Busy, Wait? nnn" appears, then all ports to the MITRE-Bedford UNIX Facility are busy. "nnn" indicates your position in the queue. If you enter

n <CR>

to indicate that you do not wish to wait, you will get the message:

```
DISCONNECTED
Disconnection Complete
```

Entering a carriage return after a disconnect will prompt you with:

MITRE System #?

or

Enter MITRENET Service Name

If you wish to wait for a port to free up, enter:

y <CR>

the system will respond with either:

WAITING

which means you will be soon connected or:

Queue full, disconnected

If you wish to terminate the waiting, the break key or attention key can be hit three (3) times slowly followed by a "<CR>" to return to "MITRE System #?". If you are connected to MITRENET, depress the SET-UP key followed by the number "0" to return to the "Enter MITRENET Service Name".

PREPARING DOCUMENTS FOR DOCUMENT ANALYSIS

Before a document can be analyzed by ARDS, the document must adhere to the format requirements of Document Analysis. The format requirements, which are met by the document preparation program, "doc.prep", are as follows:

Left margin removed,

Underscored text is changed to Document Analysis pseudo underscoring, i.e., leading "$#" and ending "#$".

Removal of control characters, such as, backspaces, tabs, and carriage returns, and

Primary paragraph numbers moved to column one.

The document preparation program, "doc.prep", will generate a copy of your document that will adhere to the Document Analysis format requirements. Prior to executing the program, the user must determine the number of leading blanks (left margin) in the document. The user is now ready to execute the document preparation program. This is done by entering the command:

```
doc.prep  <CR>
```

You will be prompted with:

```
ARDS Document Preparation Program

Select the code of the word processor from which this
document was transferred.

          w  =  WORD-11
          d  =  DEC Word Processors
          n  =  UNIX nroff
          o  =  Other

  Enter here:
```

Enter the code that represents the word-processing system that was used to prepare your document. If your word-processing system is not represented, enter the letter "o".

For users entering "o", your document will be prepared using a general preparation program. You will find that titles in the table of contents generated from documents prepared in this way are limited to one line. The user will be given the option to continue with the preparation or terminate the document preparation program.

If the word processor that was used to generate your document was represented by "o" and you decide to continue, you will be prompted with:

Enter the name of your word processor.

After the word processor has been identified, you will be asked to enter the name of your document file. When prompted with:

Enter the name of the document file:

enter the name of your document file. The output of the document preparation program is the name entered plus the characters "ards". This file is used as input to batch or on-line Document Analysis.

You will also be asked to enter the left margin setting of your document. If you do not know the left margin setting, you should terminate the program. Once the left margin setting has been determined, you can execute "doc.prep" again.

EXECUTING DOCUMENT ANALYSIS

Document Analysis can be executed in two modes: batch and on-line. The text below describes how to execute each mode:

Batch Document Analysis

An analysis of a document in your account can be done via batch Document Analysis from any UNIX terminal. This is done by entering the command:

batch.ards <CR>

Section 4 of this manual gives a detailed description of this command. Section 6 of this manual contains examples of the Document Analysis products.

On-Line Document Analysis

An analysis of a document in your account can be done via on-line Document Analysis if you have VT100 or VT103 terminal. This is done by entering the command:

ards <CR>

Once in ARDS you are requested to enter:

d <CR>

for the ARDS Document Analysis Options Display. This is the display that takes you to the different capabilities of Document Analysis, such as, Word Check, Paragraph Check, Reference Check, and Table of Contents. Section 5 contains prints of some of the displays you will encounter using on-line Document Analysis. Section 6 of this manual contains examples of the Document Analysis products.

When you have finished using Document Analysis, you enter:

o <CR>

to return to the ARDS Main Menu and then enter:

e <CR>

to exit ARDS.

LOGGING OFF THE SYSTEM

When you have finished using Document Analysis, you log out of the UNIX system by entering:

logout <CR>

OBTAINING HARD COPIES

You will normally get a set of printouts when you analyze a document in Document Analysis. You can also request printouts by entering the "p" option at different places in on-line Document Analysis. Hard copies can be picked up at the MITRE-Bedford Computer Center approximately thirty minutes after they are requested. The printout will contain an ARDS banner followed by the Document Analysis products. The ARDS banner will indicate the

account in which the document was analyzed, the project charged, the name of the document analyzed, and the date and time the document was analyzed.

READING YOUR MAIL

After the analysis of a document is completed, you will receive mail indicating when and where the Document Analysis products can be secured. When you have mail, the UNIX "mail" program will prompt you with:

You have mail.

To read your mail, enter:

mail <CR>

The "mail" program will prompt you with lines similar to:

```
/usr/spool/mail/ards          1 message   1 new
>N   1 ards          Tues May 3 12:02 10/240
&
```

NOTE: Some accounts may have been setup to execute the mail command during the logging in process. If your account has been setup this way, you will receive the lines above without entering the mail command.

To read the mail, enter:

t <CR>

Your mail will be displayed at your terminal. When prompted again with "&", enter:

d [message number] <CR>

to delete the mail you have just read. To exit the "mail" program, enter:

q <CR>

REPORTING ERRORS AND SUGGESTIONS

The ARDS user can report any errors and make any suggestions regarding Document Analysis via the UNIX "mail" program. To send "mail" to the ARDS support group, enter:

mail ards <CR>

When prompted with:

Subject:

enter:

document analysis <CR>

Now enter your message (error or suggestion). To terminate the mail program and send the "mail" to the ARDS support group, enter:

<CTRL> d

(The symbol, <CTRL>, means to hold the "CTRL" key while entering the letter that follows.) You will be prompted with:

EOT

This indicates that the end-of-text has been detected. You are now ready to enter your next UNIX command.

ANALYZING CLASSIFIED DOCUMENTS

Classified documents can be analyzed at the ARDS Computer Facility during normal working hours. The current transfer medium for classified documents are nine-track, magnetic tape and DEC stand-alone word processors. Procedures for transferring documents from other word processors will be defined as needed. You should contact the ARDS support personnel for classified analyses far enough in advance to ensure proper planning for your word processor and the scheduling of computer time. The ARDS support personnel can be reached at 617-271-7864.

ASSUMPTIONS DOCUMENT ANALYSIS MAKES ABOUT DOCUMENTS

When you review your Document Analysis products, you may find unexpected results. These are often caused by differences between the actual content or format of the analyzed document and what

Document Analysis expects. The following paragraphs indicate assumptions that Document Analysis makes about the document.

Paragraph Checking

The following assumptions are made about the paragraphs and paragraph numbers in the document being checked:

A string of characters is recognized as a paragraph number if it consists of digits and periods only, if it has at least one digit and one period, and if there are no more than two consecutive digits.

The following are examples of paragraph numbers: 2.0, 1., 4.13.8. The following are examples of unacceptable paragraph numbers: 6.2.a, 4.128.

A paragraph number that identifies a paragraph begins in the leftmost column of text.

A paragraph is preceded by at least one blank line in the text.

Internal Paragraph Referencing

A string of characters is recognized as a paragraph number if it consists of digits and periods only, if it has at least one digit and one period, and if there are not more than two consecutive digits.

If figure and table numbers have the same form as paragraph numbers, then references to them may be interpreted as references to paragraph numbers. However, references to figures or tables having the same number as the paragraph in which the references occur are ignored.

External Referencing

Document references in the text of a document are located by searching for known document prefixes. The following list of prefixes, which can be extended at user request, is used:

AFM	DOD
AFR	T.O
FED	DCAC
MIL	ANSIX
AFSC	JANAP
DIAM	GA
RADC	FIPS
SDSP	STDN
AFNAG	MM
NORAD	JSC
NORADM	ME
NORADR	EIA
NACSEM	

A document reference in the list (of applicable documents, section 2, of a Type A Specification) with a letter suffix is considered to match a reference in the text without a letter suffix, but otherwise the same.

Words

A word is a string of one or more alphanumeric characters enclosed at each end by one or more non-alphanumeric characters. The exceptions are: a period (.) and an apostrophe (´) which do not define the end of a word if followed by an alphanumeric character. A word that starts with a digit is not included in the word list.

The following are examples of words: line, name.version, user´s.

The following are examples of word rejects: 124, 3.1.3, 300KB.

When Document Analysis is searching for words in the text of a document, hyphens at the end of a line of text are removed and the character string at the end of one line is pushed together with the character string at the beginning of the next line to form a single word. If a hyphen in a hyphenated word, such as, "on-line" occurs at the end of the line, it will be mistaken for an end of the line hyphen and removed. As a result, the word listed will be "online" instead of "on-line". Unusual results occur when words in tabular materials are hyphenated; information from different columns will be joined.

The lower case and initial capital versions of a word are considered to be two different words in the word list.

Location of Words

When a hyphenated word is split at the end of a line at a hyphen and the hyphen is removed to form a word, as explained above, the line of text shown in the "locate" printout will be the line on which the last part of word occurs.

Acronyms

An acronym is a word that consists of two or more characters and that begins with a capital letter and ends with one of the following: a capital letter, or a capital letter followed by "s", or "'s" or a number.

SECTION 4

BATCH DOCUMENT ANALYSIS

GETTING STARTED

If you are an experienced UNIX user, you should go to the paragraph, USING BATCH DOCUMENT ANALYSIS.

Prior to executing the batch mode of Document Analysis command, you need to know your full pathname. You can determine the full pathname of the document by entering the command:

pwd <CR>

Your current pathname will be printed, for example:

/ul/ards

The results of the "pwd" command plus a "/" and your document name is the full-path name of your document. If the document name is "testards", the full-path name of your document will be:

/ul/ards/testards

When you enter the "batch.ards" command, the system will respond with:

Enter the full-path name of your document:

After executing the batch Document Analysis command, you will see on the screen a "%" prompt. You can now logout of UNIX by entering:

logout <CR>

After about thirty minutes, log into the UNIX account again. If the Document Analysis has been completed, you will receive a UNIX system message indicating that you have mail. To read the mail, see section 3, READING YOUR MAIL.

USING BATCH DOCUMENT ANALYSIS

You can request an analysis of your document from any UNIX terminal by executing the command:

batch.ards <CR>

The system will respond with:

Enter the full-path name of your document:

NOTE: Only document files in your current login account may be analyzed.

When prompted with:

p = Print the products
s = Store the products in a file
b = Both of the above

Enter p, s or b for the desired output mode:

select the desired output mode. If you select the "p" option, the Document Analysis products can be picked up at the Bedford Computer Center. The Document Analysis products can be printed at any hard copy terminal if the "s" option is selected. The name of the file in which the products are stored will be the name of your document file plus the characters "all".

After you have selected the output mode, the analysis is begun and you can execute other UNIX commands as soon as you get the prompt (%).

The time that the analysis takes depends on the size of your document and the load on the UNIX system. You will receive mail via the UNIX mail system when the analysis has been completed.

To minimize computer costs, you should remove unnecessary files. If the document was not generated in UNIX, the file containing the document and the file containing the products should be deleted. The results of "doc.prep" should remain in your account until you are sure that you do not want any other listings from that document.

SAMPLE PRODUCTS

The products below are generated via batch Document Analysis. An example of each product is found on the pages indicated.

LOCATING OTHER WORDS IN YOUR DOCUMENT

On occasion you may wish to locate various words in your document. Any word on the ARDS WORD LIST can be located in your document by contacting the ARDS support personnel at 617-271-7864. The output looks similar to the ARDS DOUBTFUL WORD LOCATIONS listing on page 95.

UPDATING THE PROJECT DICTIONARY

Occasionally good words will be included on the ARDS DOUBTFUL WORDS listing. The good words on this listing can be added to your project dictionary. If you plan to perform an analysis on future versions of your document, the project dictionary should be updated. To update your project dictionary, contact the ARDS support personnel at 617-271-7864.

SECTION 5

ON-LINE DOCUMENT ANALYSIS

This section of the manual describes the on-line interface of Document Analysis. In this section, you will find the characteristics of the on-line interface and prints of some of the displays you will encounter. You will also find the results of selecting various options shown in the displays.

The on-line interface is intended for the local ESD/MITRE user who is not familiar with the UNIX system. The on-line interface can provide help at any point by entering:

h <CR>

In addition to reviewing hard copies of the Document Analysis products, the on-line Document Analysis user can review these products on-line. The on-line interface also provides for the updating of your project dictionary.

DISPLAY CONVENTIONS

The on-line interface has been designed for easy use by people who are not familiar with UNIX. The following formatting conventions have been used in its design to improve usability:

The display label (usually the series of option letters entered to get you to a display) is displayed in the top, left-hand corner of the screen.

The name of the document selected for review is displayed to the right of the display label.

Instructions for data entry or option selection are in the bottom lines of the display.

Error messages will appear in the line before the instructions.

Information messages will appear on the line before error messages.

A beep is sounded when a display output has been completed and the system is ready for user input.

INPUT CHARACTER LIMITATION

The following special characters cannot be used in any input to the system through the Document Analysis on-line interface:

* & ( ) [ ] ? @ | ^ ; < > - n : #

Therefore, the names and titles of documents that you supply when you are loading a document into Document Analysis must not contain any of these above characters.

DOCUMENT REPLACEMENT

If a document being loaded is assigned the same "name.version" as a previously loaded document, then the previously loaded document and all Document Analysis products associated with it are destroyed.

USING ON-LINE DOCUMENT ANALYSIS

You can request an analysis of your document from a VT100 or VT103 terminal by executing the command:

ards <CR>

The display on page 31 will be shown. The remainder of this section contains prints of some of the displays you will encounter in the on-line interface and the results of selecting the various options shown.

```
ards
                    ARDS OPTIONS LIST

     s  =  Specification generation

     d  =  Document analysis

     c  =  Comment management

     e  =  Exit from ARDS

     h  =  Help


Select option: ▌
```

INPUT	SAMPLE DISPLAY
d	page 32

```
o spadb.o.2
                    ARDS OPTIONS

    d  =  Document management (loading, analysis, selection, deletion)

    w  =  Word check for typos, spelling errors

    p  =  Paragraph check for misnumbering, format errors

    r  =  Reference check, paragraphs and external

    t  =  Table of contents

    h  =  Helpful explanation of ARDS capabilities

    c  =  Command entry

    e  =  Exit from ARDS


Select option:
```

INPUT	SAMPLE DISPLAY
d	page 33
w	38
p	39
r	40
t	45
h	46
c	47
	OPERATION
e	Exit from ARDS Document Analysis

```
od
                                ARDS DOCUMENT MANAGEMENT

Four document management services are available:

     l  =  Loading a new document into ARDS files

     a  =  Analyzing a new document, once loaded

     s  =  Selecting an analyzed document for review

     d  =  Deleting an old document from files


Return to ARDS Options, or
Select document management service:
```

INPUT	SAMPLE DISPLAY
l	page 34
a	35
s	36
d	37
RETURN	32

```
cd:
                          ARDS DOCUMENT LOADING
                          Confirm Specification

Finally, you must confirm the new document specification, or you may
enter a code to request that any item be changed (n = name, d = date, etc.).

    UNIX source file: /u1/spadoc/ards/spadb.o.2

    ARDS document record

    Name:    spadb.o
    Version: 2
    Date:    6/1/81
    Title:   Preliminary Performance And Design Requirements For The
             USAF Space Defense Operations Center Basic Alternative



Return to Document Management, or
Enter c to confirm (or other code to change) document specification:
```

INPUT	OPERATION
n	Permits changing of document name
v	Permits changing of version number
d	Permits changing of document date
t	Permits changing of document title
c	Confirms document specification
	SAMPLE DISPLAY
RETURN	page 33

```
033
                    ARDS DOCUMENT ANALYSIS
                       Implementation

Document spadb.o.2 has been loaded and is available for analysis.

Name.Version:   spadb.o.2; Loaded Mon Jun  1 11:27:21 EDT 1991
Date:           6/1/81
Title:          Preliminary Performance And Design Requirements For The
                USAF Space Defense Operations Center Basic Alternative

Based on the document size of 184 pages, the computer charge for ARDS
analysis will be approximately $111 during daylight hours, and $74 to
do the same job at night (login after 5 pm).  Indicate when you want
to implement document analysis.

    i  =  Immediately
    n  =  Nighttime
    d  =  Defer document analysis indefinitely
    x  =  Cancel document analysis and delete document


Select desired analysis implementation:
```

INPUT	OPERATION
i	Implements the analysis of specified document immediately
n	Implements the analysis of specified document after normal work hours
d	Defers the analysis of specified document indefinitely
x	Cancels the analysis of the specified document; deletes specified document
	SAMPLE DISPLAY
RETURN	page 33

```
ods spadb.o.2
                                ARDS DOCUMENT SELECTION

Currently selected document is

Name.Version:   spadb.o.2; Loaded Tue Mar 31 10:14:36 EST 1981
Date:           2/28/81
Title:          Preliminary Performance And Design Requirements For The
                USAF Space Defense Operations Center Basic Alternative

Stored documents include

spadb.o.2

Return to Document Management, or
Enter name.version of selected new document here:
```

INPUT	OPERATION
name.version	Selects specified document for analysis
	SAMPLE DISPLAY
RETURN	page 33

```
odd
                                ARDS DOCUMENT DELETION
                                   Document Choice

Stored documents include


To delete a document from ARDS files requires two steps:

(1)  Enter here the document name.

(2)  You will then review the full document specification and
     be asked to confirm deletion.




Return to Document Management, or
Enter name.version of document to be deleted:
```

INPUT	OPERATION
name.version	Indicates the document to be deleted
	SAMPLE DISPLAY
RETURN	page 33

```
ow spadb.o.2
                                ARDS WORD CHECK

A word check for this document has been completed.

Summarized results show:

5544 different words, including
    5055  recognized words, probably correct
    117   doubtful words, possibly wrong
    372   acronyms, recognized or doubtful

To review these words, select desired category:

    r  =  Recognized words
    d  =  Doubtful words
    a  =  Acronyms
    p  =  Printout list of all words


Return to ARDS Options, or
Select category for word check:
```

INPUT	OPERATION
r	Permits on-line review of recognized words
d	Permits on-line review of doubtful words. Subsequent operations permits the update of the project dictionary.
a	Permits on-line review of acronyms
p	75 80 85 92

```
op spadoc.2
                    ARDS PARAGRAPH CHECK

A paragraph check for this document has been completed.
8 errors in paragraph numbering have been detected.

To review these errors, select desired output mode:

    p  =  Printout

    d  =  Display (recommended for expert users only)



Return to ARDS Options, or
Select desired output:
```

INPUT	SAMPLE PRINTOUT
p	page 57
	OPERATION
d	Permits on-line review of the paragraph numbering errors.

```
or spadb.o.2
                                ARDS REFERENCE CHECK

Two types of reference checking are available:

    p  =  Paragraph references, i.e., those internal to this document

    e  =  External references, i.e., those to other documents
          (listed in Section 2.0 of system specifications)

Return to ARDS Options, or
Select reference check:
```

INPUT	SAMPLE DISPLAY
p	page 41
e	42
RETURN	32

```
crp spadb.o.2

                    ARDS REFERENCE CHECK
                    Paragraph Referencing

A check of internal paragraph referencing in this document has been completed.

Three lists are available.  You can select a particular list for review,
or choose to print all three.

    w  =  Wrong paragraph references

    by =  paragraphs referred to BY others

    to =  paragraphs that refer TO others

    p  =  Printout of all three

Return to Reference Check, or
Select paragraph referencing output:
```

INPUT	OPERATION
w	Permits on-line review of wrong paragraph references.
by	Permits on-line review of paragraphs referred TO BY others.
to	Permits on-line review of paragraph that refers TO others.
	SAMPLE PRINTOUTS
p	page 59
RETURN	40

```
cre sp300.0.2
                                ARDS REFERENCE CHECK
                                External Referencing

A check of external references in this document has been completed.
Two outputs are available:

    a  =  All references, in the reference list and in the text

    d  =  Discrepant references only, i.e., those where a reference
          in the text does not appear in the reference list,
          or vice versa

Return to Reference Check, or
Select external referencing output:
```

INPUT	SAMPLE DISPLAY
a	page 43
d	44
RETURN	40

```
area spadb.o.2
                    ARDS EXTERNAL REFERENCING
                     All External References

153 external references have been found in this document including:

    39 in the reference list, and
    114 in the text

To review all references, listed by location in the document,
request printout.

Return to External Referencing, or
Enter q for printout:
```

INPUT	SAMPLE DISPLAY
RETURN	page 42
	SAMPLE PRINTOUT
p	page 66

```
cred sradb.a.2
                    ARDS EXTERNAL REFERENCING
                      Discrepant References

34 discrepancies in external referencing have been detected, including:

    10 in the reference list, but not in the text
    24 in the text, but not in the reference list

To review these discrepancies, listed alphabetically by reference name,
select desired output mode:

    p  =  Printout

    d  =  Display (recommended for expert users only)



Return to External Referencing, or
Select desired output:
```

INPUT	SAMPLE DISPLAY
RETURN	page 42
	SAMPLE PRINTOUT
p	page 66
	OPERATION
d	Permits on-line review of discrepant external references.

```
:: sp33b.0.2
                                ARDS TABLE OF CONTENTS

A table of contents for this document has been generated.
622 entries were found.

To review these entries, select desired output mode:

    p  =  Printout

    d  =  Display (recommended for expert users only)

Return to ARDS Options, or
enter desired output:
```

INPUT	SAMPLE DISPLAY
RETURN	page 32
	SAMPLE PRINTOUT
p	page 50
	OPERATION
d	permits on-line review of the table of contents

```
oh
                                ARDS OPTIONS                                HELP

     The display of ARDS options is the home base to which you can return
from any step in a transaction sequence.  You can always return to Options
by entering an "o" (but without the quotation marks).

     At any step in a transaction sequence you can also enter an "h" to
request help pertinent to that particular transaction.  A help display
is a simple digression.  Any entry will return you to the display you just
left.  In this case you will return to the ARDS Options display.

     If you want a helpful explanation for a specific option, return to
the Options display, and then enter an option code followed by "h": "dh"
for an explanation of document management, "wh" for an explanation of word
check, etc.

Return:
```

INPUT	OPERATION
RETURN	Return to Previous Display

```
cc sraab.o.2
                                    ARDS COMMAND ENTRY

Code + Qualifier
----   ---------
ds     name.version  selects new document for review
w      p             prints all words in document
wr     p             prints recognized words
wd     p or d        doubtful words
wa     p or d        possible acronyms (not yet implemente)
wdla   p or d        locations of all doubtful words
wdlb   p or d        locations of bad doubtful words
wdls   p or d        locations of selected doubtful words
p      p or d        paragraph numbering errors
rpw    p or d        wrong paragraph references
rpby   p or d        paragraphs referred to BY others
rpto   p or d        paragraphs that refer TO others
rp     p             prints all three paragraph referencing lists
rea    p             prints all external references
red    p or d        discrepancies in external referencing
t      p or d        table of contents

Return to ARDS Options, or
Select COMMAND entry!
```

INPUT	SAMPLE DISPLAY
ds name.version	page 47
	SAMPLE PRINTOUT
wp	page 75
wrp	80
wdp	92
wap	85
wdlap	95
wdlbp	95
wdlsp	95
pp	57
rpwp	65
rpbyp	62
rptop	59
rpp	59,62,65
reap	68
redp	67
tp	51

SECTION 6

DOCUMENT ANALYSIS PRODUCTS

This section contains examples of the products generated by Document Analysis. The examples were generated using a preliminary version of the SPADOC Type A system specification.

BANNERS

The first page of the Document Analysis products is a banner page. The banner page indicates the account in which the analysis was performed and the project to which the computer time was charged. In addition, the banner page also indicates the name of the document analyzed, the date the document was last modified, and the name and date the product file was generated.

```
  A    RRRRRR  DDDDDD   SSSSS
 A A   R     R D     D S     S
A   A  R     R D     D S
A     A RRRRRR  D     D  SSSSS
AAAAAAA R   R   D     D       S
A     A R    R  D     D S     S
A     A R     R DDDDDD   SSSSS
```

```
DDDDD   DDDD   CCCC  D     D M     M EEEEEE N     N TTTTTTT
D    D D   D C    C D     D MM   MM E      NN    N    T
D    D D   D C      D     D M M M M E      N N   N    T
D    D D   D C      D     D M  M  M EEEE   N  N  N    T
D    D D   D C      D     D M     M E      N   N N    T
D    D D   D C    C D     D M     M E      N    NN    T
DDDDD   DDDD   CCCC   DDDD  M     M EEEEEE N     N    T
```

```
      A    N     N    A    L      Y     Y  SSSS    III    SSSS
     A A   NN    N   A A   L       Y   Y  S    S    I    S    S
    A   A  N N   N  A   A  L        Y Y   S         I    S
   A     A N  N  N A     A L         Y     SSSS     I     SSSS
  AAAAAAA N   N N AAAAAAA L         Y         S     I         S
 A     A  N    NN A     A L         Y    S    S    I    S    S
A     A   N     N A     A LLLLLLL   Y     SSSS    III    SSSS
```

User Account cprg

Project Charged 5720

Document File /u5/cprg/arcs sbagb.o..
Date 3 May 1981 TIME 11:50

Product File /u5/cprg/arcs/sbagb.o.zall
Analysis Date 7 May 1981 TIME 11:59

TABLE OF CONTENTS

The Document Analysis generated Table of Contents lists the paragraphs by number and title. If page numbers were properly defined in your document, the Table of Contents will also contain page numbers. Otherwise, the number "1" is used as a page number throughout the Table of Contents. The first five pages of SPADOC table of contents begins on the next page.

ARDS TABLE OF CONTENTS

Current listing of numbered paragraphs.

[illegible]
[illegible]
[illegible]

PARAGRAPH CHECK

For documents with numbered paragraphs, the Document Analysis generated Paragraph Check lists paragraphs that are not in correct ascending numeric sequence. To assist you in finding the paragraph(s) in error, this listing indicates the line number, the page number, and the actual line that is in error.

ARDS PARAGRAPH CHECK

Current paragraphs not in correct ascending numeric sequence:

Location Line	Page	Paragraph
525	9	3.1.1.1.F $#Surveillance and Status Center (SSC).#$ This center material
1702	26	3.1.5.1.4.2..2 $#Protocol#$
6719	82	3.2.3.2.2 $#Nonrelevant Failures#$
8704	104	3.5.1.1.1 $#Repair by Replacement#$
9774	117	4.2.2 $#Maintainability Verification#$
11151	145	6.6.14.3 $#System Description#$. TIROS-N operates in 830 km circular
14890	178	50.1.2. $#Idle State#$
18248	219	60.1.6.3.3.1 Continued paragraph

REFERENCE CHECK

Document Analysis generates two types of Reference Check products: Paragraph References and External References.

Paragraph References

For documents with numbered paragraphs, where one paragraph may reference another by number, Document Analysis can help you ensure that those references are correct. Three listings are generated:

Paragraphs that refer to other paragraphs. See page 59.

Paragraphs referred to by others (useful when some paragraph numbers in the document may be changing). See page 62.

Wrong references, i.e., to paragraphs that do not exist. See page 65.

NOTE: Document Analysis will occasionally list some other numbers in the document, perhaps a measurement, as if it were a wrong paragraph number.

```
May    11 5? 1981  [illegible]us/hkr/ards/spadb.o.2                  Page 1

                         ARDS PARAGRAPH REFERENCING

Paragraph            Refers to
---------            ---------

[illegible]          [illegible]

3.1                  [illegible]

[illegible]          [illegible]
                     [illegible] 4

[illegible]          [illegible]

[illegible]          [illegible]

[illegible]          [illegible]

[illegible]          [illegible]

[illegible]          [illegible]

[illegible]          [illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]          [illegible]

[illegible]          [illegible]

[illegible]          [illegible]

[illegible]          [illegible]
```

3.2.4.2	1. 2.
3.2.4.3	3.3.1
3.2.5	10.
3.3.3	3.6
3.3.6	3.3.7
3.3.8.2	3.3.8.4
3.3.8.4.1	3.7
3.3.8.4.5	3.3.8.4.3
3.3.8.7	3.3.8
3.6.1.1	6.2.2.1
3.6.2.2	3.6.2.1
3.7.1.1.2.1	6.2
3.7.1.1.2.1.2	3.3.8.4.6
3.7.1.1.2.2	6.3
3.7.1.2.1.3.1	3.2.1.1.5
3.7.1.2.3.2.5	3.3.8.4.6
3.7.1.2.4.1.5	3.7.1.2.4.4
3.7.1.2.4.1.6	3.7.1.2.1.2.3
3.7.2	3.1.1.2
4.2.1.7	3.3.8.8
4.3.1	3.7
4.4.1.2.2	4.4.1.2.1
6.1.10	10.
6.4	3.1.1.2
6.4.1	6.4.1.1 6.4.1.1.1 6.4.1.1.3 6.4.1.1.4 6.4.1.2 6.4.2

	6.4.2.[illegible]
	6.4.[illegible]
6.6.[illegible]	2[illegible]
6.6.[illegible]	2[illegible]
6.6.4.[illegible]	6.6.[illegible].5.1
6.6.4.[illegible]	6.6.[illegible].5.2
6.6.[illegible].5.1	6.6.[illegible].5.1
6.6.[illegible].5.2	6.6.[illegible].5.2
6.6.22.5.1	6.6.[illegible].5.1
6.6.22.[illegible]	6.6.[illegible].5.2
6.6	2[illegible]
[illegible]	[illegible]
2[illegible]	6[illegible]

ARDS PARAGRAPH REFERENCING

Paragraph	Referred to by
1.	3.2.4 3.2.4.2
2.	3.2.4.2
3.	10.0
3.1.1	3.2.4
3.1.1.1.3	3.1.1.2
3.1.1.2	3.7.2 6.4
3.1.2	3.2.4
3.1.3	3.2.4
3.2	3.1.4.2
3.2.1	3.2.3.2.1
3.2.1.1.5	3.7.1.2.1.3.1
3.2.3	1.0 3.2.1.1.1 3.2.3.1
3.2.3.2.1	3.2.3.2.2
3.2.3.2.3	3.2.3.2.2
3.2.4	3.2.1.1.1 3.2.4.1.2 3.2.4.1.3
3.2.4.1	3.2.4.1.1
3.2.4.1.4	3.2.4.1.5
3.2.5	3.2.1.1.1
3.3.1	3.2.3.3 3.2.4.3
3.3.7	3.3.6
3.3.8	3.3.8.7
3.3.8.4	3.3.8.2

3.3.8.4.3	3.3.8.4.5
3.3.8.4.6	3.7.1.1.2.1.2 3.7.1.2.3.2.5
3.3.8.8	4.2.1.7
3.5.3	3.1.6.1
3.6	3.3.3
3.6.2.1	3.6.2.2
3.7	3.1.4.2 3.2.3.2.1 3.3.8.4.1 4.3.1
3.7.1.2.1.2.3	3.7.1.2.4.1.6
3.7.1.2.4.4	3.7.1.2.4.1.5
4.4.1.2.1	4.4.1.2.2
6.	20.0
6.1	3.1
6.2	3.1.7 3.7.1.1.2.1
6.2.2.1	3.6.1.1
6.3	3.7.1.1.2.2
6.4	3.1.1.2
6.4.1.1	6.4.1
6.4.1.1.1	6.4.1
6.4.1.1.3	6.4.1
6.4.1.1.4	6.4.1
6.4.1.2	6.4.1
6.4.	6.4.1
6.4.	6.4
6.4	6.4
[illegible]	[illegible]

Max	[illegible]	of hkr arms spadt[illegible]	Page
		6.6.[illegible].5.1	
6.6.[illegible].5.2		6.6.22.5.2 6.6.4.5.2 6.6.7.5.2	
6.[illegible]		3.2.1	
10.		3.1.3 3.2.1.2.1 3.2.1.2.2 3.2.1.2.3 3.2.5 6.1.10	
20.		6.6.3.2 6.6.3.3 6.8	

ARDS PARAGRAPH REFERENCING

References to non-existing paragraphs:

Paragraph	Refers to
3.2.7.1.2	23.34
	29.23
	29.55
3.3.1.3	5.3.5
3.3.2.1	4.1.3
3.3.3	5.5
3.3.6	4.1.3
3.7.1.1.2	5.8.3.3.2
4.4.1.1	5.1.1
6.3.2	13.5

External References

If section 2 of a document with numbered paragraphs contains a list of External References, a Discrepant References listing will be generated. This listing shows the references in the text which do not appear in the references lists, and vice versa. This listing is found on page 67.

A list of all External References are found on page 68. A code of "NL" indicates the reference was not found in the list and a code of "NT" indicates the reference was not found in the text. If the reference was found in the reference list and in the text, the code is blank.

NOTE: Document Analysis may occasionally not recognize an intended reference if its format has been garbled; for example, MIL STD 490 as opposed to MIL-STD-490.

ARDS EXTERNAL REFERENCES
Discrepant References

References found in [illegible] reference list [illegible]
but not in the text:

AFM 66-14
AFSC DH 1-6
DOD 5200.1-R
DOD 5200.28
DOD 5200.28-M ADP
DODI
MIL-STD-49C
RADC TR-74-308
RADC RAC 376
XBS

References found in [illegible] text but not
in the reference list (Section 2):

AFM
AFM
AFM
AFM
AFSCF
AFSCF [illegible]M
CIAM
DOD
DOD 5200.1R
DOD 5200.28-M
FEDB
JANAF
JANAF 128
JANAF 128H
MIL
MIL-STD-781
MIL-STD-454
NACSEM
NORAD-SNAPE
RADC
RADC RAC
SSP
[illegible]
XBS

[illegible]

[illegible]

[illegible]

Code	Line	Page	Paragraph	References
NT	[illegible]	[illegible]	[illegible]	[illegible]
	[illegible]	[illegible]	[illegible]	[illegible]
NT	[illegible]	[illegible]	[illegible]	[illegible]
NT	[illegible]	[illegible]	[illegible]	[illegible]
NT	[illegible]	[illegible]	[illegible]	[illegible]
	96	[illegible]	[illegible]	MIL-E-4158E
	99	[illegible]	[illegible]	MIL-E-6651
	102	2	2.1.2	MIL-F-14072B
	104	2	2.1.2	MIL-H-46855B
	109	2	2.1.3	MIL-STD-202A
	113	2	2.1.3	MIL-STD-454G
	116	2	2.1.3	MIL-STD-461B
	140	3	2.1.3	MIL-STD-470
	143	3	2.1.3	MIL-STD-471A
NT	146	3	2.1.3	MIL-STD-490
	149	3	2.1.3	MIL-STD-721B
	152	3	2.1.3	MIL-STD-756A
	155	3	2.1.3	MIL-STD-781C
	159	3	2.1.3	MIL-STD-965A
	162	3	2.1.3	MIL-STD-882A
	165	[illegible]	2.1.3	MIL-STD-965
	168	[illegible]	2.1.3	MIL-STD-2470
	174	[illegible]	2.1.4	AFM [illegible]
NT	[illegible]	[illegible]	2.1.4	AFM [illegible]
	[illegible]	[illegible]	[illegible]	AFNAS [illegible]

	182	3 2.1.4	AFNAG-9A
	206	4 2.1.4	AFR 300-8
NT	210	4 2.1.4	AFSC DH 1-6
	212	4 2.1.4	DIAM 50-3
	215	4 2.1.4	DIAM 50-4
	222	4 2.1.4	MIL-HDBK-217B
	225	4 2.1.4	MIL-HDBK-472
	227	4 2.1.4	NACSEM 5100
	233	4 2.1.4	NORADM 100-1
	237	4 2.1.4	NORADR 205-14
	240	4 2.1.4	NORADR 800-1
NT	244	4 2.1.4	RADC/RAC 376
NT	246	4 2.1.4	RADC TR-74-308
NT	299	5 2.2	X3.5
NL	317	5 3.1	SDSP
NL	317	5 3.1	SDSP
NL	2255	35 3.2.1.4	DOD 5200.1R
NL	2255	35 3.2.1.4	DOD
NL	2257	35 3.2.1.4	DOD 5200.28-M
NL	2258	35 3.2.1.4	AFR 300-8
	2259	35 3.2.1.4	AFNAG-5B
	2259	35 3.2.1.4	NORADM 100-1
	2260	35 3.2.1.4	NORADR 205-14
NL	2264	35 3.2.1.4	DIAM 50-4
NL	2266	35 3.2.1.4	DOD 5040.5R
NL	2289	35 3.2.2.4	MIL-STD-1472
NL	2290	35 3.2.2.4	MIL-STD-1472
NL	2291	35 3.2.2.4	MIL-STD-1472

NL	[illegible]	[illegible]	[illegible]
NL	[illegible]	[illegible]	MIL-STD-[illegible]
NL	[illegible]	[illegible]	MIL-F-[illegible]
NL	[illegible]	[illegible]	MIL-[illegible]
NL	[illegible]	[illegible]	MIL-[illegible]
NL	[illegible]	[illegible]	MIL-STD-[illegible]
NL	2394	[illegible]	MIL-HDBK-[illegible]
NL	[illegible]	[illegible]	MIL-STD-[illegible]
NL	[illegible]	[illegible]	MIL-STD-[illegible]
NL	2545	39 [illegible]	RADC RAC
NL	2585	4[illegible] [illegible].4	MIL-STD-[illegible]
NL	2669	41 [illegible].4 [illegible]	MIL-STD-[illegible]
NL	2669	41 [illegible].4 [illegible]	MIL-STD-4[illegible]
NL	2672	41 [illegible].4 [illegible]	MIL-STD-4[illegible]
NL	2672	41 [illegible].4 [illegible]	MIL-STD-[illegible]
NL	2781	4[illegible] [illegible].4 [illegible]	RADC
NL	3044	47 [illegible]	MIL-E-4158
NL	3049	47 [illegible]	MIL-E-4158
NL	3152	48 [illegible]	MIL-E-4158
NL	3152	48 [illegible]	MIL-STD-9[illegible]
NL	3154	48 [illegible]	FEDR
NL	3176	49 [illegible]	MIL-STD-9[illegible]
N	[illegible]	49 [illegible]	MIL-STD-9[illegible]
	[illegible]	49 [illegible]	MIL-STD-4[illegible]
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N	222	49 [illegible]	MIL-STD-[illegible]
NL	924[illegible]	[illegible]	MIL-E-[illegible]
NL	924[illegible]	[illegible]	MIL-STD-4[illegible]

NL	3249	50 3.3.2.1	MIL-STD-461
NL	3252	50 3.3.2.1	MIL-STD-461
NL	3260	50 3.3.2.2	NACSEM 5100
	3262	50 3.3.2.2	AFNAG-58
NL	3262	50 3.3.2.2	DIAM 50-3
NL	3268	50 3.3.3	MIL-E-4158
NL	3268	50 3.3.3	MIL-STD-1472
NL	3272	50 3.3.4	MIL-STD-454
NL	3278	50 3.3.5	MIL-STD-454
NL	3278	50 3.3.5	MIL-STD-280
NL	3284	50 3.3.6	AFSC
NL	3286	50 3.3.6	MIL-STD-882
NL	3310	51 3.3.6	MIL-STD-1472
NL	3311	51 3.3.6	MIL-STD-454
NL	3325	51 3.3.7	MIL-H-46855
NL	3328	51 3.3.7	T.O.
NL	3715	57 3.3.8.4.5	X3.5.
NL	3943	60 3.5.1.1	AFM 66-1
NL	3943	60 3.5.1.1	AFM
NL	3974	61 3.5.1.3	MIL-STD-454
NL	3976	61 3.5.1.3	MIL-STD-1472
NL	3977	61 3.5.1.3	MIL-STD-454
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	4066	62 [illegible]	NORADR [illegible]
	4078	62 [illegible]	AFNAG [illegible]
	4[illegible]	62 [illegible]	AFNAG [illegible]
NL	4078	62 [illegible]	DIAM
[illegible]	[illegible]	[illegible]	[illegible]

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NL	12508	192	6.9	AFM
NL	12510	192	6.9	AFR
NL	12514	192	6.9	AFSC
NL	12516	192	6.9	AFSCF
NL	12526	192	6.9	AFM
NL	12764	196	6.9	AFSC
NL	12775	196	6.9	FEDB
NL	12888	198	6.9	JANAP
NL	12964	199	6.9	MIL
NL	13022	200	6.9	NACSEM
NL	13212	203	6.9	SDSP
NL	13571	208	30.0	JANAP 128H
NL	13617	209	30.0	NORAD-SHAPE
NL	13684	210	30.0	427M
NL	14227	218	30.0	SDSP
NL	14229	218	30.0	427M

WORD CHECK

The Document Analysis Word Check capability generates five types of reports. The first report in this group is the Word List. The Word List contains a frequency listing of all words used in your document. The first five pages of the Word List generated from a preliminary version of the SPADOC specification are found on pages 75 through 79.

The first five pages from the list of recognized words begin on page 80. This listing is generated with on-line analyses only.

A list of possible acronyms begins on page 85.

A list of doubtful words begins on page 92 and the location of these doubtful words begins on page 95. If words listed on the doubtful word list are in fact good words, they can be added to project dictionary. Contact the ARDS support group for project dictionary update assistance at 617-271-7864.

A location listing can be generated for any word found on the word list.

ARDS WORD LIST

Frequency of the different words found in this document

169	A
733	a
1	A.3
2	AC41
1	AA
5	AAG
1	abbreviations
2	Ability
3	ability
16	able
2	abnormal
1	abnormality
1	abnormally
2	abort
3	aborted
8	about
23	above
3	absence
1	absent
2	Abstract
2	abstract
2	acceleration
6	Accept
6	accept
7	acceptable
2	Acceptance
6	acceptance
3	accepted
2	accepts
6	Access
23	access
4	accessed
2	Accessibility
1	accessible
1	Accident
1	accident
6	accommodate
1	accomodate
2	accompanied
4	accomplish
1	Accomplished
28	accomplished
2	accomplishing
3	accomplishment
5	accordance
1	accorded
7	according
1	accordingly
3	account
2	accredited
3	accrediting
2	accumulated
1	accuracies
9	accuracy
3	accurate
2	accurately
1	achievable
2	achieve
9	achiever
2	acknowledge
1	acknowledged
6	acknowledgement
2	acknowledgements
1	ACOC
1	Acoustical
2	acoustical
1	acquire
4	acquired
1	acquiring
23	acquisition
32	Acquisition
1	acquisitions
1	Acronyms
5	Action
51	action
1	Actions
47	actions
2	activate
2	activated
1	Activation
3	active
19	Activities
51	activities
9	Activity
58	activity
2	Actual
8	actual
1	actually
1	ACW
1	ad
1	adaptation
2	adapters
5	adaptive
9	ADC
43	ADCOM
1	ADCOMM
4	ADCOMP
4	added
1	adding
25	addition
8	Additional
18	additional
1	Additionally
1	[illegible]

[illegible] additions
[illegible] address
[illegible] Addressable
[illegible] addressable
11 addressed
4 addresser
4 addressees
[illegible] addresses
2 addressing
[illegible] adequate
[illegible] adequately
[illegible] adhere
[illegible] adhered
[illegible] adherence
18 ADIC
[illegible] ADIZ
[illegible] adjacent
1 adjustable
2 adjusted
1 adjusting
6 adjustment
1 adjustments
8 Administration
1 Administration's
3 Administrative
5 administrative
2 Administratively
1 adopted
17 ADP
41 ADPE
2 ADPS
1 ADS
1 Advanced
1 advanced
1 adversely
1 Advice
15 advise
1 Advisories
2 advisories
3 Advisory
5 advisory
3 Aeronautics
3 aerospace
6 Aerospace
1 Aetna
5 AF
10 AFB
2 AFCC
2 affect
1 affected
4 affecting
1 affective
16 AFGWC
1 AFGWC
4 AFM
4 AFMAC

[illegible] Afr
[illegible] Afr [illegible] M
[illegible] AF
[illegible] Afr
[illegible] AFTA
[illegible] After
[illegible] after
[illegible] against
[illegible] Agencies
[illegible] agencies
2 agency
12 Agency
aggregate
2 aggregates
1 Aggregation
2 aggregation
2 agreed
11 Agreement
1 Agreements
8 aid
2 aids
4 Aids
2 aims
8 air
14 Air
1 airborne
3 Airborne
7 aircraft
10 Aircraft
1 Aircrew
1 Airfields
1 Airlift
1 airplane
1 AJ
26 alarm
4 Alarms
5 alarms
8 Alaska
3 ALC
17 ALCC
12 Alert
17 alert
1 alerter
2 Alerting
4 alerting
2 Alerts
6 alerts
1 Aleutians
2 algorithm
2 algorithms
1 alignment
52 All
146 all
2 Allan

```
    5  Allied
   10  allocate
   15    allocated
    1    allocates
    2  allocating
    2  Allocation
   15  allocation
   17  allow
    2    allowable
    4    allowance
    2    allowed
    1    allowing
    1    allows
    1  Almost
    7  along
    4  Alphanumeric
    7  alphanumeric
    2    alphanumerics
    3  already
    2  ALS
    2  Also
   72  also
    1  alterable
    1  Alternate
    2  alternate
    1    alternately
    2  Alternates
    4  alternative
  216  Alternative
    1    Alternatively
    5  alternatives
    1  although
    4  Although
    2  altitude
    2    altitudes
    1  Aluminum
    1  aluminum
    2  always
    2  ambient
    1  amenable
    2  Amend
    1    Amendment
    1  America
   13    American
    2  AMHS
    1  Among
    6  among
    3  amount
    2  amplifiers
    1  Amplifying
    1  amplifying
    2  amplitude
    2  AN
   21  An
  157  an
       Analysis
```

```
    9  analyses
   15  Analysis
   42  analysis
    1  analyst
   17  Analyst
    1  analysts
    1  analytic
    1    analytical
    4  analyze
    6    analyzed
    2  Analyzes
    1  analyzing
    1  Anchor
    1  ancillary
    1  AND
 2046  and
    1  ANG
    1  Angeles
    2  Angle
    2  angle
    2  Angles
    4  angles
    1  angular
    8  ANIK
    1    ANIK's
    2  ANK
    2  annotation
    7  announcement
    1  announces
    2  anomalous
    1  Another
   14  another
    1  ans
    2  ANSI
    1  antenna
    1    antennas
    1  anthropometry
    7  anticipated
    2  Antisatellite
    2  antisatellite
    8  Any
  152  any
    2  anywhere
    4  Ap
    2  apart
    1  apparent
    1  appear
    2    appearance
    1  appended
    1  Appendix
    2  APPENDIX
   21  appendix
    1  applicability
    1  APPLICABLE
    1  Applicable
    1  applicable
```

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[illegible]	applications
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[illegible]	applies
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6	approach
1	approaching
1	Appropriate
4	appropriate
2	appropriately
4	Approval
19	approval
2	approvals
2	approve
4	Approved
16	approved
1	Approximately
6	approximately
1	Approximation
1	approximation
18	Apr
9	April
2	AR
1	arbitrary
5	architecture
1	archived
1	archiving
1	Arctic
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25	area
25	areas
1	ARIS
5	Arithmetic
4	arithmetic
1	Armament
2	Army
1	arranged
2	Arrangements
1	Array
1	array
1	arrays
1	arrive
1	arriving
1	art
1	article
1	articles
14	As
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[illegible]	A [illegible]
5	[illegible]
[illegible]	[illegible]
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[illegible]	[illegible]
[illegible]	[illegible]
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[illegible]	Assembler
4	assembler
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[illegible]	Assess
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1	Assessor
2	assessing
[illegible]4	Assessment
4	assessment
1	Assessments
	assessments
2	asset
4	Asset
1	Assets
[illegible]	assets
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1	Assignment
[illegible]	assignment
	assignments
1	assimilable
14	assist
2	Assistance
4	assistance
1	Assisted
1	Assisted instructions
1	assists
6	Assists
4	associate
42	associated
1	Association
1	association
1	Associations
1	associations
1	assumed
1	ASSURANCE
2	Assurance
[illegible]	assurance
6	assure
1	assures
1	assuring
2	asterisk
1	Astrodynamical
1	Astronautical
2	Astronautics
1	[illegible]

```
  3  AT
  8  At
219  at
  8  ATC
  0  ATE
  1  Atlanta
  2  Atlantic
  1  atmosphere
  5  Atmospheric
  1  ATT
  1  attach
  1  Attached
  2  attached
  1  Attachment
 12  Attack
 38  attack
  2    attacked
  1    attacking
  3    attacks
  4  attempt
  3    attempted
  3    attempts
  1  Attention
  3  attention
  1  attenuated
  1  attributable
  1  attributed
 10  audible
  2  Audio
  2  audio
  2  Audit
  3    Audits
  5  audits
 20  Aug
  2  augment
  1  Augmentation
  4  augmentation
  2  augmented
  4  August
  3  Australia
  1  authenticated
  1  Authentication
  1  author
  3  Authorities
  6  authorities
 16  authority
  7  authorization
  1    authorizations
  1  authorize
 13    authorized
 18  AUTOEIN
     Automated
     automated
 2   Automatic
 2   automatic
  1    automatically
```

```
  1  automation
 11  AUTOSEVOCOM
  9  AUTOVON
  1  auxiliary
  5  Availability
 16  availability
 35  available
  1  Average
  7  average
  1    averaged
  1  Aviation
  1  Avoid
  4  avoid
  5    avoidance
  1    avoiding
  1  await
  1    awaiting
  3  aware
  3  axes
  1  axial
  3  axis
  2  Azimuthal
  3  B
133  b
  2  back
  1  Background
  9  background
  1    backgrounds
  1  backout
  1  Backs
  2  Backup
 18  backup
  1  bad
  1  Bailout
  2  Baker
  1  ball
  1    ballistic
  7  Ballistic
  2  Bank
  1  bar
  1  Barometric
  1  barometric
 21  Base
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  4  Battle
```

[illegible]

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A A
abbreviation
Ability
ability
able
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abnormality
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aborted
about
above
absence
absent
Abstract
abstract
acceleration
Accept
accept
acceptable
Acceptance
acceptance
accepted
accepts
Access
access
accessed
Accessibility
accessible
Accident
accident
accommodate
accomodate
accompanied
accomplish
Accomplished
accomplished
accomplishing
accomplishment
accordance
accorded
according
accordingly
account
accredited
accrediting
accumulated
accuracies
accuracy
accurate
accurately
achievable
achieve
achieved
acknowledge
acknowledged
acknowledgement
acknowledgements
Acoustical
acoustical
acquire
acquired
acquiring
Acquisition
acquisition
acquisitions
Acronyms
Action
action
Actions
actions
activate
activated
Activation
active
Activities
activities
Activity
activity
Actual
actual
actually
ad
adaptation
adapters
adaptive
added
adding
addition
Additional
additional
Additionally
Additions
additions
address
Addressable
addressable
addressed
addressee
addressees
addresses
addressing

adequate
adequately
adhere
adhered
adherence
adjacent
adjustable
adjusted
adjusting
adjustment
adjustments
Administration
Administrations
Administrative
administrative
Administratively
adopted
ADP
ADPE
ADS
Advanced
advanced
adversely
Advice
advise
Advisories
advisories
Advisory
advisory
Aeronautics
Aerospace
aerospace
affect
affected
affecting
affective
aforementioned
AFR
AFSC
After
after
against
Agencies
agencies
Agency
agency
aggregate
aggregates
Aggregation
aggregation
agreed
Agreement
Agreements
aid
Aids
aids
aims
Air
air
Airburst
airburst
Aircraft
aircraft
Airfields
Airlift
airplane
alarm
Alarms
alarms
Alaska
Alert
alert
alerted
Alerting
alerting
Alerts
alerts
algorithm
algorithms
alignment
All
all
Allied
allocate
allocated
allocates
allocating
Allocation
allocation
allow
allowable
allowance
allowed
allowing
allows
Almost
along
Alphanumeric
alphanumeric
alphanumerics
already
Also
also
alterable
Alternate
alternate
alternately
Alternates
Alternative
alternative
Alternatively
alternative

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amount
amplifier
Amplifying
amplifying
amplitude
AN
An
an
Analyses
analyses
Analysis
analysis
Analyst
analyst
analysts
analytic
analytical
analyze
analyzed
Analyzes
analyzing
Anchor
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AND
and
Angeles
Angle
angle
Angles
angles
angular
annotation
announcement
announces
anomalous
Another
another
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ANY
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appearance
appended
APPENDIX
Appendix
appendix
applicability
APPLICABLE
Applicable
applicable
Application
application
Applications
applications
applied
applies
apply
apportioned
Apportionment
apportionment
appraisal
approach
approaching
Appropriate
appropriate
appropriately
Approval
approval
approvals
approve
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approved
Approximately
approximately
Approximation
approximation
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Area
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areas
Arithmetic

arithmetic
Armament
Army
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Arrangements
Array
array
arrays
arrive
arriving
art
article
articles
As
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ascending
ASCII
aspects
assemble
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assembler
Assemblers
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Assemblies
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assembly
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assignments
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Assistance
assistance
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Assists
assists
associate
associated
Association
association
Association
[illegible]

assumer
ASSURANCE
Assurance
assurance
assure
assures
assuring
asterisk
Astronautical
Astronautics
astronomy
AT
At
at
ATE
Atlanta
Atlantic
atmosphere
Atmospheric
attach
Attached
attached
Attachment
Attack
attack
attacked
attacking
attacks
attempt
attempted
attempts
Attention
attention
attenuated
attributable
attributed
audible
Audio
audio
Audit
Audits
audits
Aug
augment
Augmentation
augmentation
augmented
August
Australia
authenticated
Authentication
author
Authorities
authorities
authority
Authorization

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Automated
automatic
Automatic
automatic
automatically
automatic
auxiliary
Availability
availability
available
Average
average
averages
Aviation
Avoid
avoid
avoidance
avoiding
await
awaiting
aware
axes
axial
axis
Azimuthal
B
b
back
Background
background
backgrounds
backs
Backup
backup
bad
Baker
ball
Ballistic
ballistic
Bank
bar
Barometer
barometric
base
base
based
based
bases
basic
basic
basic
basic
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bearing
became
because
become
becomes
becoming
beds
been
before
beginning
begins
behavior
beige
being
Belgium
believed
bell
below
beneficial
benefit
benign
best
between
between
beyond
biases
bilinear
binding
biological
BIT
bit
BITE
bits
Black
black
blank
blast
blink
block
blocks
blower
blue
board
board
boards
bonded
bonding
Boolean
booster
[illegible]
[illegible]

ARDS ACRONYM CHECK

Current listing of possible acronyms:

A.3
AA
AAG
ACOC
ACW
ADC
ADCOM
ADCOM's
ADCOMR
ADIC
ADIZ
ADPS
AF
AFB
AFCC
AFGWC
AFGWS
AFM
AFNAG
AFSATCOM
AFSCF
AFSD
AFTAC
AJ
ALC
ALCC
ALS
AMHS
ANG
ANIK
ANIK's
ANK
AR
ARIS
ASAT
ASCC
ATC
ATT
ALTOSEVCCOM
ALTCVON
BBCF
BMEWS
BSSC
B[illegible]
C3I
CA
CAI
CANMAR[illegible]M
[illegible]
[illegible]

[illegible]

[illegible]

[illegible]
[illegible]
[illegible]
[illegible]
[illegible]
[illegible]
[illegible]
CINA
CIN
CINCAC
CINCLANT
CINCNORAD
CINCNORADs
CIS
CM
[illegible]
COMAAC
COMM
COMSAT
COMSTAR
CONCAD
CONUS
CPCI
CPCIs
CPS
CR
CRTs
CSC1
CSC2
CSC6
CSC
CSCF
CSS
CT
CWC
[illegible]
DADs
DAPAF
DASC
DBMS
DBMSs
DCA
DCAs
DCSC
DCT
DSAPAF
DEFCON
DEFCMA
DS
DSs
DH
DIAM
[illegible]
[illegible]

DOC
DODI
DOF
DOMSAT
DSA
DSCS
DSM
DSP
DSSCS
DST
DT
DTVE
DW
DWD
DoD
Document?
ECAC
ECC
ECM
ECP
ECPs
EEA
EMI
EMP
EMSEC
ENL
ESC
ESCAT
EW
EWC
Es
FBK
FCA
FCAs
FEDB
FFBK
FID
FIDs
FL
FLA
FLTSATCOM
FMC
FOC
FORSCOM
FPS
FT
FTFLA
FTs
FY
FYB1
FYB2
FYB3
FYB5
GCN
GDT
GEN 11

[illegible]
[illegible]N
[illegible]HP
[illegible]DEP
[illegible]MS
[illegible]PS
[illegible]
[illegible]PR
GSS
GTE
HDBK
HDBK217
HDS
HDX
HHANSA
HIPL
HIPPS
HOL
IDHS
IGC
IGT
IR
IRG
JADREP
JANAP
JEWC
JJANAP
JSC
JSS
JTD
LANDSAT
LCCS
LETR
LLCC
LOC
LP
LPM
LRG
LRUS
LWIR
MALS
MARISAT
MARISATTS
MCC
MDS
METSAT
MHS
MILHDBK
MILSTD
MN
MOA
MOC
MPEAC
MOSP
MS
MTBF

MTBCM
MTTR
MUX
MWASCII
MWC
MWSOC
MWTTY
N.J
NAFIOC
NAS
NAVSPASUR
NAVSTAR
NCA
NCMC
NCO
NCOIC
NCOs
NCS
NEPA
NESS's
NFARS
NID
NIDs
NMCC
NMCS
NNACSEM
NOC
NOMSS
NORAD
NORAD's
NORADM
NORADR
NORSIB
NRC
NSOC
NTCOC
NTFLA
NUDET
No.1
O's
[illegible]
OAO
OAO's
OO
OPR
OPREP
OSI
OT
PCA
PCAs
[illegible]
PDL
PH
PM[illegible]
[illegible]
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[illegible]
[illegible]
RAD
RAMTEX
[illegible]
REUP
RF
RGCC
RP
RRGP
RSL3
RSC
RTC
RTS
RV
RWCP
SACCA
SAMTEC
SAMTO
SATRAN
SBS
SCATANA
SCF
SCI
SDA
SDD
SDD's
SDS
SDSDAR
SDSP
SDT
SE
SFSS
SIF
SIGNIT
SIIF
SIO
SISAARG
SLBM
SOI
SOIT
SOSTF
SPACETRACK
SPADATS
SPADCCS
SPADOC
SPC
SS
SSAC
SSC
SST
STD
STF
[illegible]
SVC
SVT

SWO
SWT
T's
T.O
TBD
TBD6
TBD8
TCC
TCD
TCF
TDRSS
TIROS
TS
TT
TTBD
TTYs
TUDE
U.S
U.S.S.R
UHF
UPMOC
UUK
VELA
VIP
VSM
VVIP
WCC
WCCs
WESTAR
WLO
WSU
WWC
WX
X3.4
X3.5
XP
XPC
XPS
XVI
YWCC

ARCO [illegible]

Current listing of doubtful words

- Aetna
- Airdrew
- Aleutians
- Allar
- Ao
- Apr
- AssistedInstructions
- Astrodynamical
- Bailout
- Bering
- Bldg
- CommunistDominated
- Cowicham
- Dataspeed
- Dec
- Eglin
- Fairbanks
- Ft
- Fucino
- Geostationary
- Goddard
- Goldstone
- Handoff
- Hq
- Kkbps
- MHz
- Magu
- Mct
- Mict
- Mons
- Moorpark
- Mpdt
- Mpt
- Nunn
- Offutt
- Orroval
- Payloads
- Pre
- Preplanned
- Pt
- Restoral
- Rm
- Rosemont
- Shemya
- Southbury
- Spaceflight
- Suitland
- Symbology
- Telesat
- Thermocompression
- Trackball
- Whitlawn

. - wallups
. - assimilable
. - backout
. - base3
. - basictable.ox
. - bps
. - comm
. - complexes2
. - crosstrack
. - db
. - developerdefined
. - developersubmitted
. - fanfold
. - generable
. - generalpurpose
. - geostationary
. - geosynchronous
. - governmentfurnished
. - halogenated
. - inplant
. - interaction11
. - jettisonable
. - keypad
. - km
. - lb
. - lg
. - liftoff
. - lightpen
. - metalurgically
. - offequipment
. - offequipment10
. - onequipment9
. - payloads
. - postmortems
. - pratical
. - pre
. - preplanned
. - preplanning
. - prequalification
. - prioritize
. - prioritized
. - requirements1
. - restoral
. - section12
. - segmentoperational
. - selfsufficient
. - selfsustaining
. - singleelement
. - sion
. - symbology
. - systems5
. - teleconferencing
. - theshelf
. - timebetween
. - timeline
. - [illegible]

ARDS DOUBTFUL WORD LOCATIONS

Current listing of all word locations sequenced by line number:

Location Word	Line	Page	Paragraph	Text
requirements1	501	8	3.1.1.1	designed, and sized to support the SPADOC 4 mission requirements1.
pratical	513	8	3.1.1.1.1.1	pratical, beneficial and cost-effective SPADOC 4 and the IDHS will
complexes2	577	9	3.1.1.1.2.1.1	complexes2. It shall control system start up; schedule and monitor
base3	622	10	3.1.1.1.2.2	manipulate the SPADOC 4 data base3. The DBMS shall have the capa-
pratical	713	11	3.1.1.2	designed to facilitate transfer to the IDHS wherever pratical,
pre	809	13	3.1.1.2	tion involves both pre-event contingency planning and
geostationary	974	15	3.1.1.2	deep space breakups. It shall support geostationary
violators	975	15	3.1.1.2	separation policy by identifying violators, provide
km	1043	16	3.1.1.2	mately 10 km above the mean surface.)
pre	1080	17	3.1.1.2	based on pre- and post- maneuver data.
Restoral	1136	18	3.1.1.2	** 66. Plan Restoral Activities. SPADOC 4 shall determine
Restoral	1141	18	3.1.1.2	** 67. Control Restoral Activities. SPADOC 4 shall control the
restoral	1143	18	3.1.1.2	toral preparations, issuing alerts and authorizations to
restoral	1145	18	3.1.1.2	cution of restoral activities, and monitoring the
restoral	1240	19	3.1.2.2	e. determine the restoral options and recommended responses
restoral	1263	20	3.1.2.2	community of the results of the attack and restoral plans.
systems5	1529	24	3.1.5	between SPADOC 4 and other NCMC facilities and systems5.
pre	1797	28	3.1.5.2.2.7.1	system, pre-event intelligence indicators, or any abnormality occur-
segmentoperational	1880	29	3.1.5.2.2.7.2	operational condition of each mission on each space system; (2) con-
timebetween	2329	36	3.2.3	between corrective maintenance (MTBCM) for the equipment (See table
twominute	2540	39	3.2.3.2.3	minute limitation.
waveguides	2591	40	3.2.4	connectors, and waveguides.
Mct	2613	40	3.2.4	a. Mean recovery time (Mct), for bringing a redundant item of
Mct	2621	40	3.2.4	b. Mean recovery time (Mct), resulting from a software halt or
onequipment9	2649	41	3.2.4	equipment9/off-line repair/replacement or adjustment
Mict	2655	41	3.2.4	d. Mean corrective maintenance time (Mict), for off-
offequipment10	2656	41	3.2.4	equipment10 repair at the intermediate level of mainte-
Mct	2681	41	3.2.4.1.1	$#Recovery Time#$. (Mct) Recovery time is all elapsed time
Mict	2719	42	3.2.4.1.3	$#Corrective Maintenance Time (Mict)#$. The same definition
Mpt	2724	42	3.2.4.1.4	$#Preventive Maintenance (PM) Time (Mpt)#$. Preventive
Mct	2728	42	3.2.4.1.4	if PM actions are initiated during a period of Mct or Moct and if
Mpdt	2734	42	3.2.4.1.5	$#Preventive Maintenance Downtime (Mpdt)#$. Preventive
Mpt	2756	42	3.2.4.2	task (Mpt) shall not exceed 1.0 hour and the PM time for each task
Mpdt	2758	42	3.2.4.2	no Mpdt.
offequipment	2792	43	3.2.4.4	equipment, maintenance actions shall be capable of being accom-
Ao	2811	43	3.2.5	The SPADOC 4 NCMC Operations operational availability (Ao) shall be
Ao	2816	43	3.2.5	(Ao) charges the system for all outages, regardless of source, in a
db	3054	47	3.2.7.2.1	excess of 60 db(A).
lg	3064	47	3.2.7.2.2	peak acceleration lg lg
lg	3064	47	3.2.7.2.2	peak acceleration lg lg
lg	3087	47	3.2.7.2.2	maximum acceleration of lg will be experienced within the buildings,
selfsustaining	3118	48	3.2.7.3	sustaining and independent of external support for a 30 day period.
theshelf	3139	48	3.2	shelf, or GFE items of hardware, software, and firmware shall comply
metalurgically	3184	49	3.3.1.1	a. Only solid glass metalurgically bonded axial lead diodes
Thermocompression	3194	49	3.3.1.1	d. Thermocompression wedge bonding shall not be used with
halogenated	3320	51	3.3.6.1	ment shall be protected with an automatic halogenated system.
Symbology	3712	57	3.3.8.4.8	$#Chart Symbology#$. To the extent that flow charts are used,
symbology	3714	57	3.3.8.4.8	standardization of flow chart symbology shall be accomplished in
selfsufficient	4009	61	3.5.3.1	sufficient, containing its own power and water supplies, and is

singleelement	4239	65	3.6.2.2.2	element exercises the capability shall be provided to simu-
interaction11	4332	66	3.7.1.1.2.1.1	maximize the effectiveness of this interaction11. In addition, the
typein	4390	67	3.7.1.1.2.1.5	in, function button action, and designation device action;
lightpen	4454	68	3.7.1.1.2.1.10	moving a pointer control (e.g., lightpen or tablet and pen) which
fanfold	4665	71	3.7.1.1.3.4	f. Paper - Standard form length, sprocket feed, fanfold paper,
theshelf	4773	73	3.7.1.2.1.2.1	shelf assembler(s) and compiler(s). The selected compiler(s) may
developerdefined	4827	74	3.7.1.2.1.2.3	defined) variables during execution, all normal output data (both
userviews	4905	75	3.7.1.2.2.1	userviews) as perceived by applications programs or end
backout	5032	77	3.7.1.2.2.5	e. A backout capability which applies before images to the
section12	5156	79	3.7.1.2.3	Requirements for this interface are described in this section12.
lightpen	5169	79	3.7.1.2.3.1	b. To use an alphanumeric keyboard, lightpen, function keys,
lightpen	5187	79	3.7.1.2.3.1.1	designated items shall be provided. A lightpen or equivalent capa-
generalpurpose	5239	80	3.7.1.2.3.1.5	purpose tabular display by (at least) taking a designating
pre	5354	82	3.7.1.2.3.2.4	by pre-set standards for the type of request. These predetermined
postmortems	6377	97	3.7.1.2.4.4	failure. This feature may also be used for postmortems and opera-
generable	6706	102	3.7.1.3.2.3	The initial draft of an outgoing message shall be generable by using
inplant	7156	109	4.2.1.2	plant using computer CIs or the equivalent. All in-plant verifica-
prequalification	7173	109	4.2.1.3	confirm that all necessary prequalification testing and updating of
developersubmitted	7181	109	4.2.1.4	submitted specifications, drawings, flow charts, analyses, study
governmentfurnished	7373	112	4.3.2.1	furnished scenario, with the entire SPADOC system in operation and
Mpdt	7555	115	4.4.2.2.1	not been exceeded. The out-of-service limitation for PM (Mpdt)
Ao	7605	116	4.4.3	Operational availability (Ao) shall be verified on-site at both the
Ao	7617	116	4.4.3	these quantities shall be used to verify that the specified Ao
Bldg	7623	116	5.0	Material delivered to the NCMC or the Federal Bldg. from the
AssistedInstructions	7696	117	6.1.2	Instructions (CAI), and exercise generation programs. The utility
Rm	8021	122	6.2.1	SPADOC 4 Watch Center (Rm 2308), SPADOC Computation Center (Rm 9201)
Rm	8021	122	6.2.1	SPADOC 4 Watch Center (Rm 2308), SPADOC Computation Center (Rm 9201)
Rm	8022	122	6.2.1	and Upgraded Prototype Mission Operations Center (Rm 5101).
geosynchronous	8067	123	6.2.2.1	for geosynchronous transit, laser emission, collision and
km	8192	125	6.2.2.2	than 5555 km). Performs specialized calculations associ-
Nunn	8206	125	6.2.2.2	Baker-Nunn optical sensors;
keypad	8589	131	6.3.4	3 x 4 keypad arrays;
Trackball	8591	131	6.3.4	c. A Trackball unit for inputting display point location
Dataspeed	8596	131	6.3.5	The chatter terminals consist of Dataspeed 40 units. These
Dataspeed	8597	131	6.3.5	Dataspeed 40 units are standard tariff data terminals that are com-
preplanning	8933	136	6.4.1.1.2	For those events for which a large measure of preplanning is feasi-
assimilable	8941	136	6.4.1.1.2	readily assimilable representation of the situation, the display
pre	8953	136	6.4.1.1.2	c. Orbital interceptor/target geometry: pre-, trans-, and
pre	9195	140	6.4.1.1.4.1	a. Status reports: pre- and post-event (O/O)/sensors;
pre	9198	140	6.4.1.1.4.1	b. Signature analysis: pre- and post-event (IDHS);
pre	9200	140	6.4.1.1.4.1	c. Target trajectory data: pre- and post-event (SCC);
pre	9202	140	6.4.1.1.4.1	d. Threat trajectory data: pre- and post-event (SCC);
pre	9257	141	6.4.1.1.4.2	provided based on pre-determined information from owners, operators
pre	9269	141	6.4.1.1.4.2	b. Status reports: pre- and post- event (O/O);
pre	9271	141	6.4.1.1.4.2	c. Target trajectory data: pre-and post- event (SCC);
Preplanned	9273	141	6.4.1.1.4.2	d. Preplanned countermeasures options (SPADOC 4);
preplanned	9419	143	6.4.1.2.1	preplanned processing; other processing will necessarily be dynamic
pre	9455	144	6.4.1.2.2	both pre-event contingency planning and trans-event mission plan-
pre	9463	144	6.4.1.2.2	could be pre-delegated to CINCAD or to owner/operator.
timelines	9469	144	6.4.1.2.2	b. Predicted threats to Blue targets with timelines, threat
timelines	9520	145	6.4.1.2.2	and timelines;
timelines	9550	145	6.4.1.2.3	b. Approved countermeasure plan with timelines;
Pre	10708	163	6.4.2.5	b. Pre-formatted weather information for engagement planning
Restoral	10768	164	6.4.3.2	$*Restoral Management*$. This capability begins with negation
restoral	10772	164	6.4.3.2	port. Replenishment as a means of restoral is primarily the respon-

restoral	10777	164	6.4.3.2	alternatives for restoral. The alternatives may include;
restoral	10794	164	6.4.3.2	is that support required for generation of recommended restoral
Restoral	10799	164	6.4.3.2	a. Restoral methods;
preplanned	10863	165	6.5	SPADCCS assets as necessary, using preplanned battle direction
prioritize	10867	165	6.5	assessments to prioritize the target list.
basictable.ox	10919	166	6.5	insert basictable.ox
prioritized	11030	170	6.5.1.2	c. Generate prioritized target list;
timeline	11046	170	6.5.1.2	Plan timeline to NMCC;
Astrodynamical	11071	170	6.5.2.1	d. Astrodynamical constraints;
timeline	11120	171	6.5.2.2	j. Generate engagement timeline and send to SPADOC 4;
pre	11123	171	6.5.2.2	and miniature vehicle pre-loads; send file to ALCC;
Hq	11202	172	6.6.2.1	Support Program (DMSP) is Hq. Military Airlift Command, who has
Offutt	11204	172	6.6.2.1	Offutt AFB, Nebraska. The operator is the 4000th Aerospace Applica-
Offutt	11205	172	6.6.2.1	tions Group, also located at Offutt AFB.
km	11234	173	6.6.2.3	satellites in 833 km sun synchronous polar orbits inclined at 98.7o.
crosstrack	11239	173	6.6.2.3	track by rapidly scanning a crosstrack swath 2963 km wide. The
km	11239	173	6.6.2.3	track by rapidly scanning a crosstrack swath 2963 km wide. The
Offutt	11268	173	6.6.2.5.2	will be used between SPADOC 4, and 4000th AAG and AFGWC at Offutt
bps	11325	174	6.6.3.5.2	2400 bps will be provided between CSS and the AFSCF DSM Command and
Pt	11428	176	6.6.6.1	(NAG) headquartered at Pt. Magu, California.
Magu	11428	176	6.6.6.1	(NAG) headquartered at Pt. Magu, California.
km	11439	176	6.6.6.3	sists of several satellites in near circular 1100 km polar orbits in
MHz	11441	176	6.6.6.3	timing signals on two coherent frequencies, 150 and 400 MHz. Navi-
Pt	11445	176	6.6.6.3	Pt. Magu, CA; Prospect Harbor, ME; Rosemont, MN; and Wahiawa, HI.
Magu	11445	176	6.6.6.3	Pt. Magu, CA; Prospect Harbor, ME; Rosemont, MN; and Wahiawa, HI.
Rosemont	11445	176	6.6.6.3	Pt. Magu, CA; Prospect Harbor, ME; Rosemont, MN; and Wahiawa, HI.
Wahiawa	11445	176	6.6.6.3	Pt. Magu, CA; Prospect Harbor, ME; Rosemont, MN; and Wahiawa, HI.
Pt	11446	176	6.6.6.3	The computing center at Pt. Magu calculates the satellite's ephem-
Magu	11446	176	6.6.6.3	The computing center at Pt. Magu calculates the satellite's ephem-
Pt	11447	176	6.6.6.3	serides and projects the orbit for 16 hours. Pt. Magu and Rosemont
Magu	11447	176	6.6.6.3	serides and projects the orbit for 16 hours. Pt. Magu and Rosemont
Rosemont	11447	176	6.6.6.3	serides and projects the orbit for 16 hours. Pt. Magu and Rosemont
Pt	11455	176	6.6.6.4	office at Pt. Magu, CA. Any information which is deemed appropriate
Magu	11455	176	6.6.6.4	office at Pt. Magu, CA. Any information which is deemed appropriate
km	11516	177	6.6.7.3	at 20,187 km altitude and 52o inclination. The planes are separated
Offutt	11564	178	6.6.8.1	Force, and is operated by the AFCC at Offutt AFB, Nebraska
uplinks	11576	178	6.6.8.3	improved jamming resistance on the uplinks and will increase the
Offutt	11584	178	6.6.8.4	Master Control Complex (MCC) at Offutt AFB. The SPADOC 4 will
Geostationary	11628	179	6.6.11	$#Geostationary Operational Environmental Satellite (GOES)#$
geostationary	11647	179	6.6.11.3	geostationary orbits by 1984. Data are processed through NESS's
Suitland	11658	179	6.6.11.4	tion. Data will be sent between SPADOC 4 and NESS at Suitland,
Suitland	11664	179	6.6.11.5.1	tions will be required between SPADOC 4 and NESS at Suitland, Mary-
Suitland	11668	179	6.6.11.5.2	SPADOC 4 and NESS at Suitland, Maryland will be via a dedicated
wideband	11701	180	6.6.12.2	by providing wideband relay to the Air Force Satellite Control
payloads	11770	181	6.6.13.2	launching system to place seven different categories of payloads in
comm	11773	181	6.6.13.2	comm/navigation); (3) NASA-related (earth resources, weather); (4)
Payloads	11775	181	6.6.13.2	etc.); (5) Space Industrialization; (6) Civil Payloads; (7) Depart-
lb	11780	181	6.6.13.3	vehicle is capable of carrying up to 65,000 lb. of varied cargo into
jettisonable	11786	181	6.6.13.3	in a large jettisonable external tank, on which the orbiter will be
jettisonable	11787	181	6.6.13.3	mounted at lift off. Two solid-propellant jettisonable, but reus-
liftoff	11789	181	6.6.13.3	nal tank for liftoff. For some DoD missions, an extra rocket motor
payloads	11791	181	6.6.13.3	for heavier payloads.
km	11851	182	6.6.14.3	$#System Description#$. TIROS-N operates in a 830 km circular
Orroval	11854	182	6.6.14.3	at the Orroval, Australia and Goldstone, California ground stations
Goldstone	11854	182	6.6.14.3	at the Orroval, Australia and Goldstone, California ground stations
Spaceflight	11865	182	6.6.14.3	of the NASA Spaceflight Tracking and Data Network. Data are stored

Suitland	11859	182	6.6.14.3	and Analysis Facility (DAPAF) at Suitland, Maryland for distribution
Suitland	11891	183	6.6.14.5.1	SPADOC 4 and NESS at Suitland, Maryland will be via commercial car-
Suitland	11895	183	6.6.14.5.2	SPADOC 4 and NESS at Suitland, Maryland will be via a dedicated cir-
payloads	11905	183	6.6.15.2	operated by Western Union, the TDRSS payloads are used by the
km	11910	183	6.6.15.2	tle, whose altitudes are below 5550 km. The benefit of TDRSS is
Spaceflight	11919	183	6.6.15.3	Spaceflight Center (JSC). The two-satellite TDRSS system provides
km	11920	183	6.6.15.3	about 85% coverage for very low satellites (185 km), increasing to
km	11921	183	6.6.15.3	100% coverage for satellites whose altitudes exceed 1200 km. TT&C
geostationary	11977	184	6.6.16.3	geostationary orbit, located at 128oW, 93oW, and 87oW. COMSAT Gen-
Southbury	11984	184	6.6.16.4	General Operations in Southbury, CT. SPADOC 4 will advise them of
Southbury	11999	184	6.6.16.5.2	SPADOC 4 and COMSAT General Operations in Southbury, CT. will be via
Moorpark	12025	185	6.6.17.1	and the other Moorpark, California.
Moorpark	12043	185	6.6.17.3	at Vernon Valley, New Jersey, and Moorpark, California.
Wallups	12090	186	6.6.18.1	D.C. It is operated by NOAA's sites at Wallups Island, Virginia and
Goddard	12092	186	6.6.18.1	formed by the Goddard Space Flight Center in Greenbelt, Maryland.
km	12104	186	6.6.18.3	satellites are in near-earth (111 km), sun-synchronous orbit at
Goddard	12109	186	6.6.18.3	received at the NASA stations and transmitted to the Goddard Space
km	12164	187	6.6.19.3	$#System Description#$. LANDSAT is deployed in a 707.5 km cir-
Goddard	12166	187	6.6.19.3	received at ground stations located at the Goddard Space Flight
Goldstone	12167	187	6.6.19.3	Center (Greenbelt, Maryland), Goldstone, California, and Fairbanks,
Fairbanks	12167	187	6.6.19.3	Center (Greenbelt, Maryland), Goldstone, California, and Fairbanks,
Goddard	12171	187	6.6.19.4	Goddard Space Flight Center in Greenbelt, Maryland. SPADOC 4 will
Goddard	12176	187	6.6.19.4	designed for survivability to hostile actions.) Goddard will pro-
Goddard	12183	187	6.6.19.5.1	voice communications network when communicating with Goddard.
Goddard	12186	187	6.6.19.5.2	SPADOC 4 and Goddard will be via the existing dedicated digital cir-
geostationary	12227	188	6.6.20.3	satellites in geostationary orbit, plus shore and ship terminals.
Southbury	12228	188	6.6.20.3	COMSAT General has two terminals, in Southbury, CT, and Santa Paula,
Fucino	12231	188	6.6.20.3	Fucino, Italy, handles TT&C for the Indian Ocean satellite.
Southbury	12234	188	6.6.20.4	General Operations in Southbury, CT. SPADOC 4 will advise them of
Southbury	12250	188	6.6.20.6.1	SPADOC 4 and COMSAT General Operations in Southbury, CT. will be via
Aetna	12256	188	6.6.21.1	SAT General Corporation, and Aetna Life and Casualty. It is
teleconferencing	12260	188	6.6.21.2	data, facsimile, and teleconferencing service to commercial users in
Southbury	12290	189	6.6.21.3	COMSAT General Operations, with sites in Southbury, CT. and Santa
Southbury	12294	189	6.6.21.4	COMSAT General Operations in Southbury, CT. SPADOC 4 will advise
Southbury	12309	189	6.6.21.5.2	SPADOC 4 and COMSAT General Operations in Southbury, CT. will be via
Mons	12316	189	6.6.22.1	in Mons, Belgium. Tracking, Telemetry, and Command (TT&C) is con-
wideband	12322	189	6.6.22.2	and the capitals of the member countries. It is a wideband general
Mons	12351	190	6.6.22.4	SHAPE Technical Center in Mons, Belgium, and the AF Satellite Con-
Geostationary	12372	190	6.6.23	$#Geostationary Communications Satellite System - ANIK#$
Telesat	12374	190	6.6.23.1	$#Owner/Operator#$. ANIK is owned and operated by Telesat
Ft	12383	190	6.6.23.2	to Ft. Leavenworth, Kansas, and Point Reyes, California, and to
Allan	12389	190	6.6.23.3	heavy route stations at Allan Park, Ontario and Lake Cowicham, Brit-
Cowicham	12389	190	6.6.23.3	heavy route stations at Allan Park, Ontario and Lake Cowicham, Brit-
Telesat	12396	190	6.6.23.3	plished at the Telesat Control Center in Ottawa, using the Tracking,
Allan	12416	191	6.6.23.3	Telemetry and Command equipment at the heavy route station at Allan
Telesat	12420	191	6.6.23.4	Telesat Control Center in Ottawa. The control center will forward
Telesat	12434	191	6.6.23.5.1	SPADOC 4 and the Telesat Control Center in Ottawa will be via AUTO-
Telesat	12438	191	6.6.23.5.2	SPADOC 4 and the Telesat Control Center in Ottawa will be via the
Geostationary	12824	197	6.9	GOES Geostationary Operational Environment Satellite
Goddard	12829	197	6.9	GSFC Goddard Space Flight Center
Kkbps	12902	198	6.9	kbps Thousand bits per second
Mct	12952	198	6.9	Mct Mean Recovery Time
MHz	12960	198	6.9	MHz Megahertz
Mict	12962	198	6.9	Mict Mean Corrective Maintenance Time
Mpdt	12974	198	6.9	Mpdt Mean PM Down time
Mpt	12976	198	6.9	Mpt Mean PM Time

Dec	13575	208	30.0	R55-2(N/A) 10 Dec 76	SCATANA/ESCAT
Dec	13636	209	30.0	C1 15 Dec 77	(U)
Bailout	13701	210	30.0		Inadvertent Release or Bailout
Aleutians	13759	211	30.0		include the Aleutians and islands in the
Bering	13760	211	30.0		Bering Sea
Apr	13766	211	30.0	C2 1 Apr 75	(S)
Apr	13767	211	30.0	C3 1 Apr 78	(S)
Dec	13769	211	30.0	C5 14 Dec 78	(S)
Apr	13810	212	30.0	R55-44(N) 1 Apr 71	(C) CINCNORAD-CANMARCOM Memorandum of
Eglin	13820	212	30.0	R55-46(N) 30 Nov 79	(S) NAVSPASUR, PAVE-PAWS, Eglin Alert
Apr	13824	212	30.0	C1 5 Apr 77	
Aircrew	13846	212	30.0	R55-53(A) 2 Nov 78	F-4 Aircrew Operational Procedures (Joint
Apr	13868	213	30.0	R55-53(A) 11 Apr 79	Aerospace Defense Command Operating
Apr	13875	213	30.0	C2 20 Apr 77	(S)
Dec	13883	213	30.0	Vol IV 20 Dec 76	(S) Defense Support Program (DSP)
Dec	13896	213	30.0	R55-59(A) 10 Dec 78	(S) The ADCOM Defense Support Program
Dec	13907	213	30.0	R55-63(A) 17 Dec 76	Deployment
Apr	13909	213	30.0	R55-64(A) 16 Apr 79	Unscheduled Landings With Nuclear Weapons
Dec	13937	214	30.0	R55-68(N) 3 Dec 79	(S) NORAD IFF/SIF Operating Instructions
Apr	13938	214	30.0	C1 28 Apr 80	(S)
Apr	13940	214	30.0	R55-69(N) 9 Apr 75	CINCNORAD--Federal Aviation Adminis-
Aircrew	13943	214	30.0	R55-70(N/A) 31 May 79	Staff/Supervisory Aircrew Operational
Apr	13962	214	30.0	C1 14 Apr 80	(S)
Apr	14001	215	30.0	C1 12 Apr 79	
Dec	14015	215	30.0	R55-84(N/A) 5 Dec 75	(S) Weapons Reintroduction Exercises
Apr	14020	215	30.0	R55-87(A) 20 Apr 76	(TS) Unprovoked Attack
Apr	14025	215	30.0	R55-89(N/A)(CC) 25 Apr 77	(S) Foreign Launch Alerting
Dec	14027	215	30.0	R55-90(A) 15 Dec 76	Baker-Nunn Tactical Operating
Nunn	14027	215	30.0	R55-90(A) 15 Dec 76	Baker-Nunn Tactical Operating
Apr	14033	215	30.0	R55-91(N/A) 20 Apr 78	SPACETRACK System Calibration
Apr	14046	215	30.0	R55-96(A) 25 Apr 80	(S) Shemya-ARIS Interface
Shemya	14046	215	30.0	R55-96(A) 25 Apr 80	(S) Shemya-ARIS Interface
Handoff	14076	216	30.0	R55-101(N/A) 10 Oct 76	Deep Space Handoff
Apr	14090	216	30.0	C7 18 Apr 80	(S)
Apr	14104	216	30.0	Vol I 25 Apr 78	Configuration Management for Operational
Dec	14107	216	30.0	C2 1 Dec 78	
Dec	14109	216	30.0	Vol II 7 Dec 78	(S) Configuration Management for Opera-
Dec	14133	217	30.0	C1 27 Dec 76	
CommunistDominated	14137	217	30.0	Dominated Countries	
Dec	14138	217	30.0	C1 15 Dec 77	(U)
Apr	14157	217	30.0	P55-127(N/A/A) 30 Apr 80	(S) Aircrew Operations Pamphlet for ECM
Aircrew	14157	217	30.0	P55-127(N/A/A) 30 Apr 80	(S) Aircrew Operations Pamphlet for ECM
Hq	14202	218	30.0		Analysis, Hq. NORAD, December 1980

APPENDIX A

HOW TO GET THE FINAL WORD-11 DOCUMENT

The purpose of this appendix is to provide procedures for generating the final document in WORD-11. If you do not plan to use any of the Document Analysis products as part of your final document, it is not necessary to implement these procedures.

MERGE ALL FILES OF THE DOCUMENT

If the document contains several files, merge all of the files into a single document. File the document after each file is pulled into the merged version by hitting the "GOLD" key and the "f" key.

VERIFY CURRENT PAGE (CP) SETTINGS

Verify the text size set in the Editor Menu. Then page through the document to check the page breaks. This is done by hitting the "GOLD" key and the "blue page" key. Fix all improper page breaks and file ("GOLD" key and "f" key) the document. File your document often so that your efforts will not be wasted in the event of a system crash.

INSERT TABLES AND FIGURES

If your document has tables and/or figures, you must insert them or leave the required number of blank pages for later insertion. If you have both tables and figures in your document, you must execute the insertion procedures twice, once for tables and once for figures.

Start at the beginning of the document by hitting "GOLD" key and then the "t" key.

Search for the first reference to table or figure keyword in your document via the "search" function of WORD-11 (hit "GOLD" and "," keys).

Put a "new" page marker by pressing the "GOLD" key and the "n" key. Merge the table or figure into the document. Make sure another "new" page marker ("GOLD" key and "n" key) follows the table or figure. Also make sure the text that follows the table has the proper

ruler. If you just want to leave a blank page, press "GOLD" and "n" keys, "RETURN" key, and "GOLD" and "n" keys again.

Back up in the document to the top of the page that contained the reference point. You need to do this because sometimes there will be references to two tables on the same page. If you do not back up, you may miss the first reference to the next table.

Repeat these steps for each table that you must merge into the final product. File the document depressing the "GOLD" and the "f" keys.

PRINT THE DOCUMENT

Order a printout from the LINEPRINTER to check your printout before printing the final, "camera-ready" version of the document. Check to make sure these settings are correct in the Print Menu:

FO - LINEPRINTER
PH - YES
AP - NO
SE - NO
PO - 0
EX - 0

Make sure that the formula:

CP + BM + TM = PS

is correct. The recommended settings for the LINEPRINTER and letter-quality printers are as follows:

CP 48 BM 6 TM 12 PS 66

The recommended settings for the the 6670 is as follows:

CP 48 BM 4 TM 10 PS 62

CHECK THE RESULTS

Check the LINEPRINTER printout. If everything is all right, you are ready to transfer the document for an analysis. See appendix B, PROCEDURES FOR TRANSFERRING WORD-11 DOCUMENTS.

APPENDIX B

PROCEDURES FOR TRANSFERRING WORD-11 DOCUMENTS

Two methods of transferring documents from WORD-11 to Document Analysis are available. The first uses the WORD-11/UNIX direct link communications capability provided by the BCC. The second uses standard nine-track tape as the exchange medium. In either case, the documents to be transferred must first be converted into printer-image form in WORD-11.

DOCUMENT PREPARATION

This section describes the procedures for creating a printer image of a document in WORD-11. The following conventions are used in these procedures to show what you must key in at your terminal:

<CR>	means carriage return using the RETURN key.
[description]	means enter the kind of information described between the brackets. For example, [document name] means key in the name of the document.
c	means key in a lower case "c", i.e., any letters or words or numbers not enclosed in brackets should be keyed in exactly as shown.
<CTRL>	means hold down the CTRL key while entering the letter that follows.

Login to WORD-11

To login to WORD-11 from a VT100 or VT103 terminal, hit the "RETURN" key. If you are prompted with:

MITRE SYSTEM #?

enter:

[system number] <CR>

For example:

22 <CR>

If you are prompted with:

Enter MITRENET Service Name:

see the Bedford Computer Center Facility Manual for "login" instructions.

If you need help, call the User Support Center at 617-271-2222.

When prompted with a message like the following:

```
RSTS V7.0-07 WORD-11 (WD2) KB62 02-Sept-82 04:05 PM
#
```

enter your account number followed by a carriage return. You will then be prompted with:

Password:

Enter the password of your account.

After the login, the broadcast messages will be displayed. After reading the broadcast message(s), enter a carriage return.

Select the Word Processing Option (WP)

Following the broadcast message(s), the Office Systems Menu will be displayed. From this menu, select the Word Processing option:

wp <CR>

At this point, the Main Menu of the Word Processing options will be displayed.

Select the File(s) To be Transferred

Look at the WORD-11 index to determine which files are to be transferred. If you already know which files are to be transferred, you may omit the next command. To look at the index, enter:

i <CR>

On a copy of appendix C list the number of all of the documents that are to be transferred. This sheet will serve as a check to ensure that all documents have been transferred. Also record the number of the account into which you are currently logged. You will need the account number later if you are not transferring the document via tape. Now get back to the Main Menu. This is done hitting the "gold" key and then entering the letter "m".

Create a Printer-Image File of the Document

From the Main Menu, select the print option and enter the number of the document whose printer-image you are going to create. This is done by entering:

p [document name or number] <CR>

You are now in the Print Menu and ready to create a printer-image file of the document. The document must have the following characteristics:

Contain no table of contents, requirements verification matrix, list of figures, list of illustrations, etc., if they have numbers that look like paragraph numbers and

Be a single-spaced document with double spacing between paragraphs.

If you are producing the final document with the intent of using the Document Analysis generated table of contents as part of your document, the document must have additional characteristics:

Have Arabic page numbers that are centered and contain no special characters.

Have page numbers that allow for figures and tables not included in the document. See appendix A, HOW TO GET THE FINAL WORD-11 DOCUMENT, for additional information.

The printer setting displayed must be changed to meet the requirements of Document Analysis. See figure B-1. To save the current printer setting, enter the "ss" command followed by a single digit. For example,

ss 9 <CR>

CAUTION: If this account is used by more than one person, you should check to see which numbers are available for saving printer settings.

-- Print Menu --

Form or Direct Output FO/DT LINEPRINTER (Form)

Printer margin indent	PM 0	First page to print	FR 1
Lines in top margin	TM 2	Last page to print	TO 0
Lines in bottom margin	BM 2	Bin select	BS 0
Lines per page	PS 66	Copies to be printed	CP 1
Automatic page breaking	AP YES	Stop every page	SE NO
Initial page number	IP 1	Create Index	IN NO
Characters per inch	PI 10	Create Table of (ents	TC NO
Wide printing margin	WM 0	Print header	PH NO
Extra half-line spacing	EX 0	Delete after prir g	DE NO
Print extra dark	DA NO	Letter Quality p	LQ NO
Underline spaces	US NO	Print priority	PR 0
Include change bars	CB NO	Printer option	PO 0

Type the letters and value and press RETURN.
Type YES and press RETURN if all settings are correct.

Figure B-1. WORD-11 Printer Settings for Document Analysis

Now change the printer settings to adhere to figure B-1. To make a change to the printer settings, type the two-letter identifier followed by a space and the argument "YES", "NO" or a number depending on the type of parameter required. After all changes have been made, save the new printer setting by entering the "ss" command followed by a single digit not used above. For example,

ss 8 <CR>

The printer-image file is created by entering the direct output, "dt", option with a file name. The Document Analysis naming convention is "ards" followed by a period and the document number.[2] If the document is "25", the name of the printer-image file is "ards.25".

To indicate the name of the printer-image file to WORD-1', enter:

dt ards.[document number] <CR>

For example:

dt ards.25 <CR>

To indicate that all settings are correct and that you are ready to create the printer image of your document, enter:

yes <CR>

When the printer-image file has been created, you will be returned to the Main Menu. Entering "yes" created the printer-image file and stored the document with the new printer settings. At this time you should restore the original printer settings. This is done by entering:

p [document name or number] <CR>

2 The file name must consist of one to six alphanumeric characters, a period plus a one to three alphanumeric character extension.

This retrieves the document with the new printer settings. Restore the original printer settings by entering the following commands:

rs 9 <CR>

ss <CR>

no <CR>

If you wish to create another printer-image file, select the print option with your document name or number. If the number 8 was used to store the Document Analysis required printer setting, enter:

rs 8 <CR>

Now enter the "dt" command. For example:

dt ards.25 <CR>

Enter:

yes <CR>

to indicate that you are ready to create the printer-image file. Record the printer-image file name on your copy of appendix C. After the printer-image file has been created, restore the printer settings as indicated in the previous paragraphs. Continue this process until a printer-image file has been created for each part of your document.

Exit WORD-11

After the printer-image files have been created for each part of your document that is to be transferred, exit the WORD-11 Word Processing mode by entering:

f <CR>

You are now out of the WORD-11 Word Processing mode and in the Office Systems Menu. At this point, logout out of WORD-11 by entering:

lo <CR>

If the documents are to be transferred by the direct link, continue with the procedures described below in FILE TRANSFER. Otherwise,

follow the procedures under TAPE TRANSFER. If your document is 150 pages or less in length, use of the FILE TRANSFER capability is recommended.

FILE TRANSFER

Login to UNIX

After the WORD-11 logout statistics have been displayed, slowly hit the "BREAK" key four times. Now hit the "RETURN" key. If you are prompted with:

MITRE System #?

enter:

1 <CR>

for the UNIX system. If you are prompted with:

Enter MITRENET Service Name:

enter:

unix <CR>

for the UNIX system. When prompted with:

login:

enter your UNIX login name followed by a carriage return. Then enter the password of the account if requested.

Transfer a Copy of the Printer-Image File to UNIX

You can transfer a copy of the printer-image file created in WORD-11 to your UNIX account via the call UNIX program, "cu". To transfer the WORD-11 printer-image file to UNIX via "cu", enter;

cu <CR>

You will be prompted with:

MITRE System #?

or

Enter MITRENET Service Name:

You are now ready to log in to WORD-11. See Login to WORD-11, at the beginning of this appendix. Following the broadcast message(s), the Office Systems Menu will be displayed. At this point, enter the RSTS access code. The RSTS access code can be obtained from the WORD-11 system programmer. To contact the WORD-11 system programmer, call the User Support Center (617-271-2222) at the MITRE-Bedford Computer Center. You are now ready to transfer a copy of the printer-image file to UNIX. To transfer a file, enter:

~>[UNIX document name] <CR>

where "UNIX document name" is the name the document will have in UNIX. After entering this command, every character displayed or entered at your terminal will be transferred to the specified UNIX file. From your copy of appendix C, enter the name of the first printer-image file to be transferred in the command below:

pip [printer-image file name] <CR>

You will see the printer-image file displayed at your terminal, line by line. When prompted with:

Ready

your printer-image file has been transferred to UNIX.

If you have other files to be transferred, enter the "pip" command again with the next printer-image file name from your copy of appendix C. Continue this process until all of the printer-image files have been transferred to UNIX.

Exit the Call UNIX Program

After all printer-image files have been transferred, enter:

~.

to exit RSTS and return to UNIX.

Clean Up the Transferred File

When you are back in UNIX, you must remove the lines beginning with "pip" and "Ready" in the transferred file. To do this, enter the command line:

```
grep -v '^Ready$' [document name] | grep -v '^pip ' > [file name]
```

where "document name" is the name of the transferred document file in UNIX and "file name" is the name of a new file in UNIX without the "Ready" prompt and the "pip" command. You are now ready to prepare the transferred document for Document Analysis.

To review a file from either list, via the RAND editor, enter:

r [file name] <CR>

When prompted with:

Enter r and file name to review, m for more transfers, or
Enter e to exit:

see section 4, BATCH DOCUMENT ANALYSIS, for an explanation of how to use the RAND editor.

If more transfers or re-transfers are desired, enter:

m <CR>

To exit the transfer program when all desired transfers have been done, enter:

e <CR>

TAPE TRANSFER

Get a Tape

Call the Bedford Computer Center desk (617-271-3379) and tell the person that answers that you wish to transfer a file from WORD-11 to UNIX. If the person taking the call cannot handle your request, ask to speak to someone who can. When you have a person that can help you, ask him to mount an "unprotected" scratch tape on the WORD-11 system which has your stored documents. Be sure that you get the number or name of the scratch tape.

Exit WORD-11 and Enter RSTS

The printer-image file(s) has been created and you are now ready to copy the file(s) to tape. Exit the WORD-11 Word Processing mode by entering:

f <CR> (exit WORD-11)

You are now out of the WORD-11 Word Processing mode and in the Office Systems Menu. At this point, enter the RSTS access code. The RSTS access code can be obtained from the WORD-11 system programmer. To contact the WORD-11 system programmer, call the User Support Center (617-271-2222) at the Bedford Computer Center. If you should need to get back into the WORD-11 system, enter:

wordll <CR>

Copy the Printer-Image File to Tape

Make sure that the tape is mounted and the tape is at its load point by entering the command:

run prog:rewind

If you are prompted with:

Ready

your tape is mounted. If any of the following messages appear:

?Magtape select error at line 10 or

?Device not available at line 10 or

DEVICE HUNG OR WRITE LOCK...

it indicates that your tape has not yet been mounted. Wait a few minutes and try again.

Copy your printer-image file(s) to tape by entering the command:

run prog:wrtape <CR>

When prompted with:

What file will be written to tape?

enter the name of the printer-image disk file (file just created with "dt") to be copied to tape. If several printer-image files for one document are to be transferred, they should be put on the same tape in the proper sequence. When prompted again with:

What file will be written to tape?

enter the next printer-image file name. If the error message:

DEVICE HUNG OR WRITE LOCK...

appears, call the Bedford Computer Center desk (617-271-3379). Ask if your tape has a "write" ring. If the tape does not have a "write" ring, have one inserted and again enter these commands:

run prog:rewind <CR>

run prog:wrtape <CR>

After the last printer-image file has been copied, enter:

exit <CR>

to terminate the program. Your tape is now ready for transferring your document to UNIX.

If you wish to see what is actually on the tape, enter the command:

run prog:seetape <CR>

when prompted with "Ready". When you have seen enough, enter:

<CTRL> c

After the document has been successfully transferred to UNIX, you should remove all of the created printer-image files. See DELETING PRINTER-IMAGE FILES IN RSTS at the end of this appendix.

Logout of RSTS

To logout of the RSTS system, enter:

bye/f <CR>

Login to UNIX

After the WORD-11 logout statistics have been displayed, slowly hit the "BREAK" key four times. Now hit the "RETURN" key. If you are prompted with:

MITRE System #?

enter:

1 <CR>

for the UNIX system. If you are prompted with:

Enter MITRENET Service Name:

enter:

unix <CR>

for the UNIX system. When prompted with:

login:

enter your UNIX login name followed by a carriage return. Then enter the password of the account if requested.

Copy the Tape to Disk

Mount your tape in UNIX by executing command:

mntape [tape number] <CR>

For example:

mntape 5035 <CR>

When the command is entered, you will immediately get a message indicating the drive on which the tape will be mounted. Wait until the operator gives you a ready message before executing the "dd" command. If you do not receive the message within five minutes, call the operator at 617-271-3379.

The "dd" command will copy the WORD-11 tape to disk creating one disk file. To copy the tape execute:

dd if=/dev/mt[tape drive number] of=[document name]

where "tape drive number" is the drive on which your tape is mounted, "document name" is the name you have given the document to be analyzed. The "dd" command will respond with the number of records copied in and the number of records written to the output file when the tape is finished copying.

Dismount the Tape

To dismount your tape, enter:

umntape [tape drive number] <CR>

where "tape drive number" is the drive on which your tape is mounted.

DELETING PRINTER-IMAGE FILES IN RSTS

Follow the procedures for logging into WORD-11 as previously discussed. When in the Office Systems Menu, enter the RSTS access code. The RSTS access code can be obtained by calling the User Support Center at 617-271-2222. When prompted with:

Ready

you can delete the printer-image files by entering:

pip <CR>

When prompted with:

#

enter the name of the printer-image file to be deleted, followed by "/de". When the last file has been deleted, exit the "pip" program by entering "<CTRL> c". For example:

```
pip  <CR>

# ards.25/de  <CR>

# ards.26/de  <CR>

# <CTRL> c
```

will delete the printer-image files, "ards.25" and "ards.26".

APPENDIX C

WORD-11 TO UNIX DOCUMENT WORKSHEET

Document name: _____

WORD-11 Account: _____ Transfer Date: _____

WORD-11 Files

No.	Name	dt File Created*	Sequence Number**	Written to Tape	dt File Deleted
		Indicate when completed			
___	_____	_____	_____	_____	_____
___	_____	_____	_____	_____	_____
___	_____	_____	_____	_____	_____
___	_____	_____	_____	_____	_____
___	_____	_____	_____	_____	_____
___	_____	_____	_____	_____	_____
___	_____	_____	_____	_____	_____
___	_____	_____	_____	_____	_____
___	_____	_____	_____	_____	_____
___	_____	_____	_____	_____	_____
___	_____	_____	_____	_____	_____
___	_____	_____	_____	_____	_____
___	_____	_____	_____	_____	_____
___	_____	_____	_____	_____	_____
___	_____	_____	_____	_____	_____
___	_____	_____	_____	_____	_____
___	_____	_____	_____	_____	_____

* Name "dt" file "ards." followed by file number, e.g., "ards.21".
** Indicate the order the "dt" files are to be written to tape.

UNIX File Name given when tape read into UNIX: _____
(maximum of seven alphanumeric characters)

APPENDIX D

PROCEDURES FOR TRANSFERRING DEC WS/78 OR DECMATE DOCUMENTS

Transferring a document generated on either a DEC WS/78 or DECmate word-processing system is an interactive procedure using the communications capability of the system. The following procedure assumes use of a DEC system with the communications option and a system diskette with the "CX" communications configured as described in appendix E.

Depending on the exact type of connection (direct cable connection, acoustic coupler modem, or push-button/ telephone-connected modem), the procedure for establishing the connection will vary.

The following conventions are used in these procedures to show what you must key in at your terminal.

<CR>	means carriage return using the RETURN key.
[description]	means enter the kind of information described between the brackets; for example, [document name] means key in the name of the document.
c	means key in a lower case "c", i.e., any letters or words or numbers not enclosed in brackets should be keyed in exactly as shown.
<CTRL>	Means hold down the "CTRL" key while entering the letter that follows.

EDIT THE DOCUMENT

Before the document is transferred, make sure the left margin is zero. This is done by reviewing the print option. To review the print option, enter the Print Menu by entering the command:

GOLD m

p [document number or name] <CR>

When in the Print Menu, the current print settings will be displayed. The print settings should be changed to meet the requirements of Document Analysis. To save the current print settings, enter the "ss" command followed by a single digit. For example,

ss 9 <CR>

Now change the print settings to adhere to figure D-1. If you need help in changing the print settings, contact the BCC User Support Center at (617-271-2222). The asterisks (*) in figure D-1 indicate the minimum value the print setting can have. After all of the changes have been made, save the printer settings by entering the "ss" command followed by a single digit not used above, for example:

ss 8 <CR>

The single digit represents the Document Analysis print settings name. If you should have to transfer another document for Document Analysis processing, use the same digit.

GET THE TRANSFER FORMAT

Get the Main Menu and Systems Options Menu by entering the commands below. The "so" command can be entered after "GOLD m" even though the "so" command is not currently displayed on the terminal screen.

GOLD m

so <CR>

After the System Options Menu has been displayed, secure the correct transfer format by entering the command:

cd 0.6 <CR> (WS/78)

or

cd 0.2 <CR> (DECmate)

This step assumes the system disk has the "CX" communication option setup, the same as the standard Comment Management system disk. See appendix E for the procedure to set the "CX" communications configuration for UNIX.

Get the Main Menu and request the Character Transmission Package by entering the following commands:

```
--PRINT MENU--

These are the current settings for printing document:

*10 characters per inch (pitch)      66 total lines per page
  1 copy will be printed            * 2 lines in the top margin
  1 is the number on the first page * 2 lines in the bottom margin
  1 is the first page printed         0 spaces in the left print margin
                                      0 spaces between columns

shadow print no
0 extra half-line space between lines
do not stop before every page
automatically break into pages
do not print extra dark
do not print with two wheels
document destination is LQP

If all settings are correct type YES, otherwise type NO, then press
RETURN.
```

Figure D-1. DECmate-WS/78 Printer Settings for Document Analysis

COLD m

cx <CR>

GET INTO UNIX

The procedures below describe the use of a Bell Data Set 212A. If you are using some other type of data set, adjust the procedures accordingly. If you have questions, contact the ARDS support personnel at 617-271-7864. When the Communications Menu appears with the option "KH HS" at the bottom of the screen:

Press the "TALK" button on the telephone and dial the appropriate telephone extension.

When the computer answers with a high-pitched tone, press the "DATA" button on the telephone and hang up the phone.

Enter a carriage return. (Two may be required).

If you are prompted with:

MITRE System #?

enter:

1 <CR>

for the UNIX system. If you are prompted with:

Enter MITRENET Service Name:

enter:

unix <CR>

for the UNIX system. When prompted with:

login:

you are now ready to login to UNIX. Enter your login name followed by a "<CR>" and your password followed by a "<CR>". If you should get the message "Login incorrect", try the login procedures again.

TRANSFER THE FILE

Transfer the file to UNIX by entering the commands below when prompted with "%".

cat > [document name] <CR>

This command will store the transferred file in UNIX with the file name of "document name" in your current directory. To initiate the transfer, enter:

\r (no <CR>)

which escapes back to the DECmate-WS/78 operating system.

When the Comm ions Menu appears with "KS HS" at the bottom, enter:

dh <CR>

This changes the bottom line of the screen to KS HS DH. The system will then prompt for the DECmate-WS/78 number (name) of the document. Enter the document number or name followed by a carriage return:

[document number or name] <CR>

At this point, the document file will be displayed on the screen of the terminal as it is transmitted, line by line.

After the last line of the document has been displayed, enter:

<CR>

You can append another document to the one just transferred by entering the following command sequence:

\r (no <CR>)

<CR>

[document number or name] <CR>

Continue this process until all of the files have been transferred.

After the last line of the last document has been displayed, enter:

<CR>

<CTRL> d (this terminates the file input)

After all of the documents have been transferred, enter:

logout <CR>

When the login message is displayed, enter:

\r (returns to DECmate or WS/78)

When the communication option display appears, enter:

GOLD m

to return to the DECmate or WS/78 Main Menu.

This concludes the transfer procedure.

APPENDIX E

DEC WS/78 AND DECMATE CX COMMUNICATIONS CONFIGURATION

There are two parts to configuring the "CX" communications option: 1) creating a protocol description file on the system disk and 2) setting the asynchronous communications characteristics on the System Options Menu.

The following file must be created on the DECmate or WS/78 system disk:

send

eol cr

This file can be assigned any file number but the following convention has been used in the past:

0.6 on WS/78

or

0.2 on DECmate

The procedure for setting the "CX" communications options for compatibility with an acoustic coupler connection to UNIX follows:

Enter:

GOLD m

to obtain the Main Menu. Then enter:

so <CR>

to obtain the System Options Menu. Enter:

cc <CR>

to change the characteristics of the communications line. When in the Communication Settings Menu, set the options as follows:

CP =	standard	Communications Protocol
BC =	No	Buffer Control
B =	B 300	Baud Rate
P =	no	Parity
D =	8	Data Bits
S =	1	Stop Bits

If the current selections do not agree with the above list, the selections can be changed using the procedures described in:

Word Processing System Communications Options User's Manual, Appendix B - Changing the Communications Characteristics. DEC document number AA-K666A-TA.

APPENDIX F

DOCUMENT ANALYSIS SUMMARY SHEET

This sheet summarizes the steps necessary to analyze a document in ARDS. It is assumed that the user has a UNIX account and knows how to log onto the system.

TAILOR DOCUMENT FOR PROCESSING

See ARDS User's Manual: Document Analysis, section 3, TAILORING DOCUMENT FOR ARDS ANALYSIS.

TRANSFER DOCUMENT TO UNIX

Transfer the document from its word processor to UNIX if the document is not in UNIX. See appendices B and D for transfer procedures for WORD-11 and DEC stand-alone word processors. Contact the ARDS support team at 617-271-7864 for transfers from other word processors.

EXECUTE ARDS DOCUMENT PREPARATION PROGRAM

doc.prep

ANALYZE DOCUMENT

Batch Document Analysis

To generate Document Analysis products and produce a printout and/or a UNIX file containing the products, enter:

batch.ards

On-line Document Analysis

To analyze documents on-line or to review Document Analysis products on-line, enter:

ards

OBTAIN DOCUMENT ANALYSIS PRODUCTS

Hard Copy

Document Analysis hard copy products can be obtained at the MITRE-Bedford Computer Center desk.

Terminal

If the analysis was requested on-line, most Document Analysis products can be viewed from your terminal.

File

The "batch.ards" command optionally produces a UNIX file containing all of the document analysis products. The name of the file produced is the name of the document file followed by "all".

APPENDIX G

DOCUMENT ANALYSIS ERROR AND INFORMATION MESSAGES

DOCUMENT MANAGEMENT

Error Messages

UNIX file _____ not found
The specified document file was not found.

_____ not found
The specified file was not found.

_____ not recognized
The data entered was not recognized.

_____ should not be more than 8 characters
The name of the document file cannot be more than 8 characters.

_____ should be a one or two digit number
The version number cannot be more than 2 digits.

_____ should be numbers for month/day/year
The date should be of the form mm/dd/yy.

__ should be n, v, d, t, or c
The type of change to be made must be indicated by one of the letters listed.

Can only select analyzed documents.
A document must be analyzed before it can be selected.

Information Messages

*Option not yet implemented
The selected option has not yet been implemented. Select another option.

*Document _____._____ is already in files
A document with this name and version number already exists in your ARDS directory.

PARAGRAPH CHECK

Error Messages

_____ not recognized
The data entered was not recognized.

Information Messages

*Print of paragraph numbering errors can be picked up at the Bedford Computer Center.

*Paragraph check has now begun.

REFERENCE CHECK

Error Messages

_____ not recognized
The data entered was not recognized.

Information Messages

*Print of Referred to BY list can be picked up at the Bedford Computer Center.

*Print of Refers TO list can be picked up at the Bedford Computer Center.

*Print of Wrong Paragraph Reference list can be picked up at the Bedford Computer Center.

*Print of paragraph reference lists can be picked up at the Bedford Computer Center.

*Paragraph reference check has now begun.

*External reference check has now begun.

*Print of all references can be picked up at the Bedford Computer Center.

*Print of discrepant references can be picked up at the Bedford Computer Center.

TABLE OF CONTENTS

Error Messages

_____ not recognized
The data entered was not recognized.

Information Messages

*Print of table of contents can be picked up at the Bedford Computer Center.

*Table of contents generation has now begun.